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PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
United States Patent and Trademark
Office
Box PCT
Washington, D.C. 20231
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 12 April 2000 (12.04.00)	Applicant's or agent's file reference J00024475WO
International application No. PCT/GB99/02665	Priority date (day/month/year) 14 August 1998 (14.08.98)
International filing date (day/month/year) 12 August 1999 (12.08.99)	
Applicant HUNT, Simon, John	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
08 March 2000 (08.03.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Jean-Marc Vivet Telephone No.: (41-22) 338.83.38
--	--

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PCT

**NOTIFICATION OF THE RECORDING
 OF A CHANGE**

(PCT Rule 92bis.1 and
 Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

MILHENCH, H., L.
 R G C Jenkins & Co.
 26 Caxton Street
 London SW1H 0RJ
 ROYAUME-UNI

Date of mailing (day/month/year) 14 December 2000 (14.12.00)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference J00024475WO	
International application No. PCT/GB99/02665	International filing date (day/month/year) 12 August 1999 (12.08.99)

1. The following indications appeared on record concerning:

☒ the applicant ☐ the inventor ☐ the agent ☐ the common representative

Name and Address NISABA GROUP LTD. Nisaba House Waterfront Business Park Fleet Road Fleet Hampshire GU13 8QT United Kingdom	State of Nationality GB	State of Residence GB
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☒ the name ☐ the address ☐ the nationality ☐ the residence

Name and Address MEDIA LOGIC SYSTEMS LTD. Nisaba House Waterfront Business Park Fleet Road Fleet Hampshire GU13 8QT United Kingdom	State of Nationality GB	State of Residence GB
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

3. Further observations, if necessary:
Power of attorney authorizing R.G.C. JENKINS & CO to represent the applicant MEDIA LOGIC SYSTEMS LTD. is required.

4. A copy of this notification has been sent to:

☒ the receiving Office ☐ the designated Offices concerned
☐ the International Searching Authority ☒ the elected Offices concerned
☐ the International Preliminary Examining Authority ☐ other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Mougamadou ABIDINE Telephone No.: (41-22) 338.83.38
---	--

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PATENT COOPERATION TREATY

PCT

REC'D 21 AUG 2000

WIPO

PCT

16

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

09762-852

Applicant's or agent's file reference J00024475WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB99/02665	International filing date (day/month/year) 12/08/1999	Priority date (day/month/year) 14/08/1998
International Patent Classification (IPC) or national classification and IPC H04N7/14		RECEIVED MAR 18 2003
Applicant NISABA GROUP LTD. et al.		Technology Center 2600

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 6 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 08/03/2000	Date of completion of this report 17.08.2000
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer McGrath, S Telephone No. +49 89 2399 8961 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB99/02665

I. Basis of the report

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

Description, pages:

1-27 as originally filed

Claims, No.:

1-19 as originally filed

Drawings, sheets:

1/14-14/14 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB99/02665

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-19
	No:	Claims	
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-19
Industrial applicability (IA)	Yes:	Claims	1-19
	No:	Claims	

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Concerning Point V - Reasoned Statement

The following documents, cited in the International Search Report (ISR), are mentioned in this report:

D1: GB-A-2 207 838

D2: WO 95 24796 A

1. As far as can be ascertained at present given the clarity objection set out below (section VIII), the subject-matter of claim 1 does not appear to meet the requirements of Article 33(3) and Rule 65(1)(2) PCT since it does not involve an inventive step.

See D1, see in particular the passages cited in the ISR, discloses almost all the features of claim 1. See also page 9, lines 5-9 which clearly discloses the preference of providing human operators for communication with subscribers. D1 does not provide details of what happens when a subscriber talks on the telephone to a the "service representatives", nor what devices are used by these representatives. Nevertheless it is considered obvious that the telephone system enables transactions to be effected and obvious that each representative has computer means which allow them to "provide ... video presentations of available products to be viewed on the customers' televisions" via the cable television system - see Fig. 1.

2. The following dependent claims do not appear to contain any additional features which, in combination with the features of any claim to which they refer, involve an inventive step Article 33(3) PCT:

claim 2 - see D1, Fig. 1;

claims 3 & 4 - see D1, page 11;

claim 5 - it is not apparent that the term "broadcast interface" has any particular meaning, nor whether such a device can actually enable such interactive communication, but in any case the skilled person would interpret D1 as being

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB99/02665

capable of performing such communication, at least some of it via the cable network which clearly includes a "broadcast interface" of some sort;

claim 6 - this claim is also rather vague but in any case D1 must include, at least implicitly, some form of video feed interface;

claim 7 - the same applies to the audio part;

claim 8 - the scrambling of video data is extremely well-known in the art and the skilled person is capable of applying it to any video data as a matter of routine;

claim 9 - see D1, page 2, line 26 - page 3, line 1 - whilst this passage refers to the prior art of D1 it nevertheless provides the clear teaching that a dedicated channel may be provided. D2, page 17, line 19 - page 18, line 2.

claim 10 - it is not fully clear what "integrally connected" means but in any case it is obvious for the skilled person to integrate such means;

claim 11 - it is implicit in D1 that storage means suitable for such purposes are provided. In any case it is obviously desirable to monitor transactions for security purposes, cf monitoring of normal telephone calls.

claim 12 - see D1;

claim 13 - see D1;

claims 14 & 15 - see D2, Fig. 1A;

claims 16 - 19 - see D1.

Concerning Point VII - Certain Defects

1. The requirements of Rule 6.3(b) PCT are not met since the independent claim is not properly cast in the two part form, according to which those features which in combination are part of the prior art are placed in the preamble.
2. The requirements of Rule 5.1(a)(ii) & (iii) PCT are not met since the background art, useful for understanding the invention, eg the documents mentioned above, have not been acknowledged in the description and the technical problems and any advantageous effects have not yet been stated in comparison to this background art.
3. The requirements of Rule 6.2(b) PCT are not met since reference signs are not used in the claims. It is considered that their presence would significantly aid the

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB99/02665

understanding of the claims.

Concerning Point VIII - Certain Observations

1. The subject-matter of claim 19 lacks clarity and therefore does not meet the requirements of Article 6 PCT. See also Rule 6.2(a) and the PCT Guidelines III, 4.10.
2. The subject-matter of claim 1 lacks clarity and therefore does not meet the requirements of Article 6 PCT.

The term "agents" is considered unclear in this context. It is not clear whether this term implies human "agents" or a machine-based "agents". Given this doubt it is not possible to clearly determine the scope of the claim.

PATENT COOPERATION TREATY

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference J00024475W0	FOR FURTHER ACTION		see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/GB 99/ 02665	International filing date (day/month/year) 12/08/1999	(Earliest) Priority Date (day/month/year) 14/08/1998	
Applicant NISABA GROUP LTD. et al.			

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

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☐ None of the figures.

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INTERNATIONAL SEARCH REPORT

International Application No.

PCT/GB 99/02665

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 H04N7/14 H04N7/173

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 207 838 A (TELACTION CORP) 8 February 1989 (1989-02-08) page 8, line 14 -page 18, line 25 figure 1	1-7, 12, 13, 16-18
A	WO 95 24796 A (APPLE COMPUTER) 14 September 1995 (1995-09-14) page 14, line 9 -page 17, line 8 page 18, line 4 -page 19, line 11 page 30, line 16 -page 37, line 18 figures 1-7	1-7, 14-18
A	EP 0 793 374 A (ROCKWELL INTERNATIONAL CORP) 3 September 1997 (1997-09-03) page 3, column 4, line 28 -page 4, column 5, line 41	1, 2, 5-7, 12-15
	-/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

4 November 1999

Date of mailing of the international search report

10/11/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax (+31-70) 340-3016

Authorized officer

Van der Zaal, R

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 99/02665

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 5 583 560 A (COREY GLENN ET AL) 10 December 1996 (1996-12-10) column 23, line 46 -column 24, line 44 figures 45-50</p>	1-7

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 99/02665

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 2207838	A	08-02-1989	US 4792849 A	20-12-1988
			AU 2043988 A	09-02-1989
			CA 1298908 A	14-04-1992
			CA 2010867 A	08-09-1990
			CN 1031457 A	01-03-1989
			DE 3820425 A	16-02-1989
			DK 428688 A	05-02-1989
			ES 2007226 A	01-06-1989
			FI 883633 A	05-02-1989
			FR 2619273 A	10-02-1989
			IT 1226436 B	15-01-1991
			JP 1106541 A	24-04-1989
			LU 87305 A	02-02-1989
			NL 8801259 A	01-03-1989
			SE 8801613 A	05-02-1989
			US 5113496 A	12-05-1992
			US 5191410 A	02-03-1993
			US 5195092 A	16-03-1993
WO 9524796	A	14-09-1995	AU 1846195 A	25-09-1995
			EP 0749661 A	27-12-1996
			JP 9510065 T	07-10-1997
EP 0793374	A	03-09-1997	US 5831665 A	03-11-1998
			CA 2195899 A	25-07-1997
US 5583560	A	10-12-1996	AU 7176494 A	17-01-1995
			WO 9501059 A	05-01-1995

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PATENT COOPERATION TREATY

From the RECEIVING OFFICE

PCT

To:
R G C Jenkins & Co
 26 Caxton Street
 London

HLm / Am

R. G. C. JENKINS & CO.

★ 18 OCT 1999 ★

CHARTERED PATENT AGENTS

SW1H ORJ

**COMMUNICATION IN CASES FOR WHICH
NO OTHER FORM IS APPLICABLE**

Applicant's or agents's file reference J00024475WO	Date of mailing <small>(day/month/year)</small> 13/10/1999
International application No. PCT/GB99/02665	International filing date <small>(day/month/year)</small> 12/08/1999
Applicant Nisaba Group Limited et al	

1. ☐ **REPLY DUE** within _____ months/days from the above date of mailing
- ☒ **NO REPLY DUE**, however, see below _____
- ☐ **IMPORTANT COMMUNICATION**
- ☒ **INFORMATION ONLY**

2. COMMUNICATION:

I refer to your letter of 22 September 1999 concerning the above PCT application.
 The inclusion of "et al" is correct as there is more than one applicant for said application.

*They are correct since inventor "HUNT" is applicant
& inventor for USA,*

*Vic
12/10/99*

Name and mailing address of the receiving Office The Patent Office Cardiff Road, Newport South Wales NP9 1RH Facsimile No.	Authorized officer <p style="text-align: center;">J.R. LLOYD-THOMAS</p> Telephone No. 01633 814346
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PATENT COOPERATION TREATY

PCT

NOTIFICATION CONCERNING
SUBMISSION OR TRANSMITTAL
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

From the INTERNATIONAL BUREAU

To:

MILHENCH, H., L.
R G C Jenkins & Co
26 Caxton Street
London SW1H 0RJ
ROYAUME-UNIR. G. C. JENKINS & CO.
★ 13 OCT 1999 ★
CHARTERED PATENT AGENTS

Date of mailing (day/month/year) 06 October 1999 (06.10.99)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference J00024475WO	
International application No. PCT/GB99/02665	International filing date (day/month/year) 12 August 1999 (12.08.99)
International publication date (day/month/year) Not yet published	Priority date (day/month/year) 14 August 1998 (14.08.98)
Applicant NISABA GROUP LTD. et al	

- The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
- This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
- An asterisk(*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
- The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
14 Augu 1998 (14.08.98)	9817829.6	GB	27 Sept 1999 (27.09.99)

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer Marc Salzman Telephone No. (41-22) 338.83.38
--	---

- PAC PLANK (ISPTO)

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

R G C JENKINS & Co.
Attn. H L MILHENCH
26, Caxton Street
GB-LONDON SW1H 0RJ
UNITED KINGDOM

R.G.C. JENKINS & CO.

★ 08 OCT 1999 ★

CHARTERED PATENT ATTORNEYS

NOTIFICATION OF RECEIPT
OF SEARCH COPY

(PCT Rule 25.1)

Date of mailing
(day/month/year)

04/10/1999

Applicant's or agent's file reference

J00024475W0

IMPORTANT NOTIFICATION

International application No.

PCT/GB 99/ 02665

International filing date(day/month/year)

12/08/1999

Priority date (day/month/year)

14/08/1998

Applicant

NISABA GROUP LTD. et al.

1. Where the International Searching Authority and the Receiving Office are not the same office:

The applicant is hereby notified that the search copy of the international application was received by this International Searching Authority on the date indicated below.

Where the International Searching Authority and the Receiving Office are the same office:

The applicant is hereby notified that the search copy of the international application was received on the date indicated below.

14/09/1999

(date of receipt).

2. ☐ The search copy was accompanied by a nucleotide and/or amino acid sequence listing in computer readable form.

3. Time limit for establishment of International Search Report

The applicant is informed that the time limit for establishing the International Search Report is 3 months from the date of receipt indicated above or 9 months from the priority date, whichever time limit expires later

4. A copy of this notification has been sent to the International Bureau and, where the first sentence of paragraph 1 applies, to the Receiving Office.

Name and mailing address of the International Searching Authority



European Patent Office, P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl
Fax: (+31-70) 340-3016

Authorized officer

ISA/EP

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PCT COOPERATION TREATY

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NOTIFICATION OF RECEIPT OF
RECORD COPY

(PCT Rule 24.2(a))

From the INTERNATIONAL BUREAU

To:

MILHENCH, H., L.
R G C Jenkins & Co
26 Caxton Street
London SW1H 0RJ
ROYAUME-UNI

27 SEP 1999
★
JENKINS & CO.
★
CHARTERED PATENT AGENTS

Date of mailing (day/month/year) 21 September 1999 (21.09.99)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference J00024475WO	International application No. PCT/GB99/02665

The applicant is hereby notified that the International Bureau has received the record copy of the international application as detailed below.

Name(s) of the applicant(s) and State(s) for which they are applicants:

NISABA GROUP LTD. (for all designated States except US)
HUNT, Simon, John (for US)

International filing date : 12 August 1999 (12.08.99)
Priority date(s) claimed : 14 August 1998 (14.08.98)
Date of receipt of the record copy
by the International Bureau : 08 September 1999 (08.09.99)

List of designated Offices :

AP : GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW
EA : AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
EP : AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
OA : BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
National : AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB,
GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN,
MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW

ATTENTION

The applicant should carefully check the data appearing in this Notification. In case of any discrepancy between these data and the indications in the international application, the applicant should immediately inform the International Bureau.

In addition, the applicant's attention is drawn to the information contained in the Annex, relating to:

- ☒ time limits for entry into the national phase
☐ confirmation of precautionary designations
☒ requirements regarding priority documents

A copy of this Notification is being sent to the receiving Office and to the International Searching Authority.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer: H. Zhou Telephone No. (41-22) 338.83.38
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INFORMATION ON TIME LIMITS FOR ENTERING THE NATIONAL PHASE

The applicant is reminded that the "national phase" must be entered before each of the designated Offices indicated in the Notification of Receipt of Record Copy (Form PCT/IB/301) by paying national fees and furnishing translations, as prescribed by the applicable national laws.

The time limit for performing these procedural acts is **20 MONTHS** from the priority date or, for those designated States which the applicant elects in a demand for international preliminary examination or in a later election, **30 MONTHS** from the priority date, provided that the election is made before the expiration of 19 months from the priority date. Some designated (or elected) Offices have fixed time limits which expire even later than 20 or 30 months from the priority date. In other Offices an extension of time or grace period, in some cases upon payment of an additional fee, is available.

In addition to these procedural acts, the applicant may also have to comply with other special requirements applicable in certain Offices. It is the applicant's responsibility to ensure that the necessary steps to enter the national phase are taken in a timely fashion. Most designated Offices do not issue reminders to applicants in connection with the entry into the national phase.

For detailed information about the procedural acts to be performed to enter the national phase before each designated Office, the applicable time limits and possible extensions of time or grace periods, and any other requirements, see the relevant Chapters of Volume II of the PCT Applicant's Guide. Information about the requirements for filing a demand for international preliminary examination is set out in Chapter IX of Volume I of the PCT Applicant's Guide.

GR and ES became bound by PCT Chapter II on 7 September 1996 and 6 September 1997, respectively, and may, therefore, be elected in a demand or a later election filed on or after 7 September 1996 and 6 September 1997, respectively, regardless of the filing date of the international application. (See second paragraph above.)

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

CONFIRMATION OF PRECAUTIONARY DESIGNATIONS

This notification lists only specific designations made under Rule 4.9(a) in the request. It is important to check that these designations are correct. Errors in designations can be corrected where precautionary designations have been made under Rule 4.9(b). The applicant is hereby reminded that any precautionary designations may be confirmed according to Rule 4.9(c) before the expiration of 15 months from the priority date. If it is not confirmed, it will automatically be regarded as withdrawn by the applicant. There will be no reminder and no invitation. Confirmation of a designation consists of the filing of a notice specifying the designated State concerned (with an indication of the kind of protection or treatment desired) and the payment of the designation and confirmation fees. Confirmation must reach the receiving Office within the 15-month time limit.

REQUIREMENTS REGARDING PRIORITY DOCUMENTS

For applicants who have not yet complied with the requirements regarding priority documents, the following is recalled.

Where the priority of an earlier national, regional or international application is claimed, the applicant must submit a copy of the said earlier application, certified by the authority with which it was filed ("the priority document") to the receiving Office (which will transmit it to the International Bureau) or directly to the International Bureau, before the expiration of 16 months from the priority date, provided that any such priority document may still be submitted to the International Bureau before that date of international publication of the international application, in which case that document will be considered to have been received by the International Bureau on the last day of the 16-month time limit (Rule 17.1(a)).

Where the priority document is issued by the receiving Office, the applicant may, instead of submitting the priority document, request the receiving Office to prepare and transmit the priority document to the International Bureau. Such request must be made before the expiration of the 16-month time limit and may be subjected by the receiving Office to the payment of a fee (Rule 17.1(b)).

If the priority document concerned is not submitted to the International Bureau or if the request to the receiving Office to prepare and transmit the priority document has not been made (and the corresponding fee, if any, paid) within the applicable time limit indicated under the preceding paragraphs, any designated State may disregard the priority claim, provided that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity to furnish the priority document within a time limit which is reasonable under the circumstances.

Where several priorities are claimed, the priority date to be considered for the purposes of computing the 16-month time limit is the filing date of the earliest application whose priority is claimed.

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INTERACTIVE SYSTEM FOR ENABLING TV SHOPPING

5 **Field of the Invention**

This invention relates to an interactive system for use as a TV shopping system in the home for example.

Background of the Invention

10 The idea of home shopping is not new per se. In mainstream home shopping, customers have long been able to place orders for goods which are displayed for purchase in printed catalogues. Typically, the customer would telephone or fax the catalogue agent and then order a particular good by citing its respective catalogue number from the catalogue. While the process of ordering goods from the agent by reference to catalogue number is
15 straightforward, it is not well-suited for ordering many types of products, for example, foodstuffs which customers prefer to see and handle first-hand prior to purchase.

More recently, home shopping on the internet has received attention from the big supermarkets. Current trial schemes are testing the most efficient
20 and cost-effective ways of delivering direct to customers who increasingly expect technology to make their lives easier. Tesco has been testing two variations on electronic shopping, namely (1) a catalogue on CD-ROM and (2) a website on the internet where browser-shoppers can compile a shopping list, pay by card and arrange a home delivery at a small cost. Sainsbury has
25 also launched an Orderline service, which takes orders via the internet or by phone or fax, once the shopper has compiled his/her own personal shopping catalogue on a visit to the store. Somerfield and Iceland are also testing similar home-shopping services in their respective stores. Internet shopping is, however, subject to various drawbacks. First, actual usage of the internet is
30 very small, which in part is due to the small proportion of households having

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access to the worldwide web. The costs of delivery and administration are high, and the speed of ordering can be slow given that the internet is sometimes sluggish. Further, interested customers have to learn to overcome the technological barriers in getting started on the internet and the likelihood
5 that mistakes are made during the early stages of use is high.

The present invention aims to overcome or substantially reduce at least some of the above-discussed drawbacks.

Objects and Summary of the Invention

It is the principal object of the present invention to provide an
10 interactive system which enables TV shopping to be effected quickly and reliably from a central provider by remote customers in their homes.

In broad terms, the present invention resides in the concept of establishing interactive communication between the remote customers in their homes and particular agents working at workstations at the central provider,
15 and providing to the customers visual representations of the agents and/or of products available for purchase for display on the customers' TVs so as to enable the agents and the customers to effect transactions without the customers having to leave their respective homes.

According to the present invention there is provided an interactive
20 system for enabling TV shopping from a central provider by remote customers, said system comprising: means enabling video and audio communication to be established between the remote customers and the central provider, said means including distribution means enabling (a) incoming customer telephone communications to be routed to particular agent
25 workstations of the central provider, there being a plurality of such workstations, and (b) outgoing audio and video communications from the plurality of agent workstations to be routed to the respective customers from whom the incoming telephone communications are received; means
enabling agents working at said workstations to communicate interactively
30 with the customers and provide to the customers video representations of

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available products to be viewed on the customers' televisions; and means enabling the agents and the customers to effect transactions.

5 In accordance with an exemplary embodiment of the invention, the distribution means comprises a control/switching system for enabling customer communications to be routed to and from the agent workstations of the central provider. The control/switching system may be embodied as a piece of software, for example, which is adapted to run on standard computer hardware.

10 Advantageously, the interactive system may have graphics generating means for enabling computer generated graphics of available products to be provided for transmission to the customers' TVs for viewing.

15 Further, the interactive system may have signal mixing means for combining video signals generated at the central provider with graphics-generated data, and means for compressing the combined signals for transmission to the customers' TVs.

20 In the exemplary embodiment, an interface to a broadcast network is provided to effect transmission of the video and audio communications from the central provider to the respective remote customers. The broadcast interface may, for example, comprise an audio feed interface and a video feed interface. The broadcasting can be via any of the established broadcasting media technologies, via, for example, a terrestrial network (including cable or the public switched telephone network) or via satellite directly to the customer's own dish aerial (or via a local area network).

25 Advantageously, the video representations provided to the remote customers are scrambled and are adapted to be unscrambled by a uniquely addressable decoder device at the respective customers' locations so as to permit the representations to be viewed on the customers' TVs. The decoder device may be a set-top box decoder, for example, and may be integrally connected to the customer's TV.

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It is further envisaged that the exemplary embodiment of the invention has additional features for facilitating communication between the agents and the remote customers. For example, the system of the invention may comprise image-capturing means, a camera for example, for providing live representations of the agents and/or of the available products at the central provider. The system may also be provided with (1) means for recording the dialogue of communications between the agents and the customers; (2) means for providing an automated attendant service to the customers when the agents are not available to receive the customer communications; and (3) supervising means for providing a facility for overseeing the configuration and maintenance of said system in use.

The system of the invention advantageously provides a simplified and convenient process for TV shopping by way of interactive communication between remote customers and agents at a central goods and/or services provider. The system can be implemented at reasonable cost and has utility for various applications where the management of customer-agent relationships (for example, managing enquiries) is involved.

The above and further features of the invention are set forth with particularity in the appended claims and will be described hereinafter with reference to the accompanying drawings.

Brief Description of the Drawings

Figure 1 is a schematic block diagram illustrating the system embodying the present invention;

Figure 2 is another schematic block diagram of the system embodying the present invention illustrating the subsystem components of the system in greater detail; and

Figures 3 to 12 are a selection of example process diagrams representative of various functions of the system of the invention in use.

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Detailed Description of an Embodiment of the Invention

Figure 1 is a schematic block diagram of the interactive system 1 embodying the present invention. The interactive system generally indicated at 1, comprises a remote customer subsystem 2 at which the remote customer is located, a telephone distribution subsystem 3 connected to the remote customer subsystem 2, a central provider 4 at which particular agent workstations are sited for receiving and processing customer telephone communications, a broadcast distribution subsystem 5 for transmitting live and/or processed communications back to the remote customer subsystem 2 for viewing thereof on the customer's TV, and a control/switching system 6 connected to the central provider 4 such as to enable the customer communications to be controlled and routed to and from the agent workstations of the central provider 4. The control/switching system 6 is preferably an event-driven system comprising a piece of software that runs on standard computer hardware.

Figure 2 of the accompanying drawings shows the subsystem components of the interactive system in greater detail. In this figure, the remote customer subsystem 2 comprises a telephone instrument 7 for enabling incoming customer telephone communications to be effected with the agents 29 at the central provider 4, a television set 8 and a decoder device 9. The television set 8 is adapted to be connected to a broadcast network 28 via the decoder 9. The purpose of the television set 8 is to display visually, at the remote customer location, video representations (live and recorded video, for example) of the agents 29 and/or of products available for purchase at the central provider 4. The decoder 9 has two main functions: (1) it provides a unique address (that is, a number) for identifying uniquely each remote customer location 2 such as to permit unique video representations to be sent from particular agent workstations at the central provider 4 to the respective customers 10 from whom the incoming telephone communications are received, and (2) it is adapted to unscramble the video representations

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provided to the customer 10 by converting said representations from an analogue or digital format into a viewing format suitable for display on the customer's television set 8. It is envisaged that the decoder 9 is a set-top box decoder and that this may be integrally connected to the customer's television set 8.

The remote customer subsystem 2 is connected to the telephone distribution subsystem 3 via a public switched telephone network 12. In the preferred embodiment, the telephone distribution subsystem 3 is a computer-controlled automated call distribution system comprising a voice record system 13, a telephone turret 14 enabling audio communications to be effected by an agent 29, an interactive voice response system 15 and a controllable switch system 16, for example a PABX/ACD (Automatic Call Distribution) System, for switching incoming telephone calls to the control/switching system 6. The above-mentioned features of the telephone distribution subsystem 3 are described more fully hereinafter.

The voice record system 13 provides the capability to record optionally the dialogue of telephone communications between the remote customers 10 and the agents at the central provider 4. The voice recorder 13, being preferably connected to the switch system 16, can be used to check (1) the accuracy of product/service orders and (2) the general quality of the products/services being offered for purchase.

The interactive voice response system 15 operates under the control of the control/switching system 6 and its purpose is to provide an automated attendant service to remote customer callers 10 when all agents 29 are busy. Such a system 15 may have means for recording the customer caller's number via CLID (Calling Line Identifier) and means for providing the customer caller with the option to call back when an agent 29 becomes available. Also, such a system 15 may have the facility to (1) permit queuing with promotional voice and video on hold; (2) record product/service order details for later input and confirmation by an agent 29; and (3) permit simple queuing and

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provide statistics details therewith (for example, the caller may be told "you are third in the queue, estimated wait time 5 minutes").

5 The controllable switch system 16 comprises one or more switches adapted to interface between the telephone circuit trunks of the public network service provider 12 and the agents 29, via their headsets, at the central provider 4. The switch system 16 may be supplied as a standard product line item from a third party and typically does not require any modification for use in the system 1 of the invention.

10 Advantageously, the switch system 16 may comprise a variety of PABX/ACD (Automatic Call Distribution) switches. In order that the control/switching system 6 can be successfully interfaced to switches of this type, it may be necessary to employ a component layer interface wrapper such as to provide a generic interface to the control/switching system 6 and a specific interface to the PABX/ACD switches.

15 It is also to be appreciated that the switch system 16 performs the following important functions in the system of the invention, in co-operation with the control/switching system 6:

- 20 (1) The switch system 16 may signal to the control/switching system 6 that an incoming call is ringing together with its Calling Line Identifier (CLI) if available.
- (2) The control/switching system 6 may label a call with One-time Call Reference and then instruct the switch system 16 to route the call to a given extension.
- 25 (3) The control/switching system 6 may instruct the switch system 16 to answer the call when given indication by the agent 29.
- (4) The control/switching system 6 may instruct the switch system 16 to put a call on hold.
- (5) The control/switching system 6 may instruct the switch system 16 to retrieve a call previously put on hold.

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- (6) The control/switching system 6 may instruct the switch system 16 to route a call to another given extension and answer the call.
- (7) The control/switching system 6 may instruct the switch system 16 to conference another extension into any call.
- 5 (8) The switch system 16 may signal to the control/switching system 6 that a call previously put on hold has been waiting for the designated period and must now be re-answered.
- (9) The control/switching system 6 may instruct the switch system 16 to clear down the call.
- 10 (10) The switch system 16 may respond to a system status request to supply system status and any error conditions.
- (11) The switch system 16 may respond to a call status request to supply call status, queue position, etc; and any error conditions.
- (12) The switch system 16 may be configured to accept an error condition indication from the control/switching system 6.
- 15 (13) The control/switching system 6 may request Time of Day from the switch system 16.
- (14) The control/switching system 6 may set the Time of Day for the switch system 16.
- 20 It is envisaged that the system 1 of the invention may provide a power dialling facility in order that customers who have called the centre and left a Call-back message may be automatically dialled when an agent 29 is free. In that situation, the switch system 16 performs the following additional functions:
- 25 (i) the control/switching system 6 may instruct the switch system 16 to call a given Directory Number. The switch system 16 may be configured to respond with the call status/progress: "ringing", "busy", "answered";

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(ii) at any point during the calling phase, the control/switching system 6 may instruct the switch system 16 to connect the call to an extension and answer the call;

5 (iii) the control/switching system 6 may instruct the switch system 16 to clear an extension from a conference call; and

(iv) the switching system 16 may contain a store for keeping record of: the One-time Call Reference (Call Label) for each call, when applicable; the Calling Line Identifier (CLID) for each call, where available; the Status of each call; the System
10 Status; and the response and error condition indications, messages and codes from the control/switching system 6.

Turning now to the central provider 4 of the system 1 of the invention, there is provided a computer-driven user interface and a workflow sales and service process for facilitating searching, retrieval and updating of information
15 about available products/services and customers. More particularly, as shown in the preferred embodiment of Figure 2, the central provider 4 comprises an agent interface system 17, a live video system 18, a first video mixing system 19, a recorded video library system 20, a second video mixing system 21, a video format converter 22, an overlay graphics generating system 23 and a
20 still video library system 24. The above-mentioned features of the central provider 4 are described more fully hereinafter.

The agent interface system 17 preferably comprises a plurality of workstations, in the form of PCs for example, which are so configured to receive incoming customer telephone communications via the
25 control/switching system 6 and to provide also outgoing video and audio communications which can be routed, for example, via the control/switching system 6, to the respective customers at the remote customer locations from whom the incoming telephone communications are received.

Graphic representations of products being offered for purchase can be
30 generated at the central provider 4 by means of software operable under the

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control of the agent interface system 17. The software is envisaged to be provided in an overlay graphics generating system 23 connected directly to said interface system 17.

Advantageously, the agent 29 has access to a number of live video sources. Firstly, there is provided a live video system 18, comprising a video camera for example, such that, if required, the remote customer 10 can see live pictures of the agent and/or of available products on the customer TV screen 8. Secondly, there is provided a moving image video library 20 which can be in the form of conventional tape or digitally recorded on a video server. The agent 29 also has access to still pictures from an image video library system 24. The pictures are typically held in digital form.

Further, the central provider 4 has means for selecting and mixing live and recorded video to provide a single video output. For example, the first video mixing system 19 is arranged to combine a live video signal from the live video system 18 with a recorded video signal from the recorded video library system 20, and generate a single video output containing moving images. The second video mixing system 21 has a different function from the first video mixing system 19 in that it is arranged to mix video signals output from the first video mixing system 19 and the video format converter 22, and provide a single synchronised output. In this regard, it is to be understood that the video format converter 22 translates analogue video signals output from the overlay graphics generating system 23 and converts them into a format suitable for mixing with motion video signals.

Advantageously, each of the plurality of agent workstations at the central provider 4 is adapted to provide the following functions in the system 1 of the invention:

- (1) Make and/or accept log on/log off requests and change password requests; for example, to initiate requests to the control/switching system 6 to set up video channels for encoded transmission on the broadcasting network 5.

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- 5 (2) The control/switching system 6 may indicate to a particular workstation that an incoming call, with CLID, is waiting to be answered. Within a given time interval, the particular agent workstation is responsible for responding that the agent 29 wishes to answer the call. The incoming call may also be a call which the agent 29 has put on hold for longer than the permitted period.
- 10 (3) Indicate when video is ready for transmission and accept the response from the control/switching system 6 indicating the allocated TV channel number and the ID of the associated feed to the broadcasting network head end 27; also have the ability to specify the ID of the associated feed cable to the head end or allow the control/switching system 6 to select the next available feed.
- 15 (4) Indicate the switch status for a local video switch interface 26 in order that the control/switching system 6 can patch the appropriate video source to the feed cable to the head end 27.
- (5) Indicate wish to transfer call (voice/video/both) to another agent 29.
- (6) Indicate wish to put call (voice/video/both) on hold.
- (7) Indicate wish to retrieve call (voice/video/both) previously put on hold.
- 20 (8) Indicate wish to terminate call (voice/video/both/immediate/delayed).
- (9) Within a given time interval, respond to status request which should supply call status; any error conditions; associated PABX/ACD Director Number (DN); agent status (to include financial value and number of product(s) ordered).
- 25 (10) Accept an error condition indication from the control./switching system 6.
- (11) Indicate agent operational status; for example, ready to accept calls.

The agent workstations may also be configured to keep record of a variety of parameters, for example:

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workstation ID; agent name; agent ID; access level granted; agent status (e.g. not accept calls, engaged, etc); one-time call reference, when applicable; calling line ID (CLID) of caller; time-out period, if applicable; general status (this will include the financial value of product ordered to date); status code; knowledge of the local video switch source 26 and destination port references and video feed IDs; knowledge and interpretation of response and error conditions, messages and codes from the control/switching system 6; and time of day.

Referring next to the broadcast distribution subsystem 5 of the system 1 of the invention, there is provided means enabling video and audio communication signals sourced from the central provider 4 to be switched across a broadcast network for encoded transmission such as to maintain a one-to-one correspondence between the signal source (the central provider 4) and the signal recipient (the remote customer 10). More particularly, in the preferred embodiment of Figure 2 of the accompanying drawings, the broadcast distribution subsystem 5 comprises a switching interface 26, a head end control system 27 adapted to be connected to the switching interface 26 and a broadcast network 28 for enabling communications routed from the central provider 4 and/or the control/switching system 6 to be transmitted to the remote customer location 2. Each of the above-mentioned components of the broadcast distribution subsystem 5 is described more fully hereinafter.

The switching interface 26 provides an automatic means of patching the local video source from the agent workstations 4 to the broadcast network video feed 27. It also provides the facility of transferring video calls between agents 29 without requiring the remote customers 10 to change video channels on their repetitive set-top box decoders 9. The switching interface 26 is envisaged to be provided by a video matrix switch. The switching interface 26 may perform the following tasks:

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- (1) As instructed by the control/switching system 6, it may connect/disconnect any specified video source to any network video feed.
- (2) In user mode it may only allow one source to be patched to one destination. In supervisor mode it may allow one source to be patched to multiple destinations.
- (3) In supervisor mode it may permit a reset or disconnect all connections made.
- (4) It may accept an error condition indication from the control/switching system 6.
- (5) It may directly access motion recorded video signals from the video library system 25 which is envisaged to be connected thereto.

In addition, the switching interface 26 can keep a record of:
video source and destination reference numbers; one-time switch reference per switching instruction; connection and component status; and knowledge and interpretation of response and error conditions, messages and codes from the control/switching system 6.

As is also shown in Figure 2, the outputs from the switching interface 26 are multiplexed together and passed over a wide area network connection to the broadcast network head end control 27. The purpose of the head end control 27 is to demultiplex the received video data and to convert their format, if desired, depending on the type of head end used. The head end is typically analogue, although alternatively, this could be in the form of a digital interface.

Preferably, the head end control 27 comprises (1) a head end subscriber management system/control switch as installed and used by the broadcast network 28 to enable and disable the customer's set-top box decoders 9; and (2) intermediate switching control interfacing components co-located, for example, at the head end.

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Advantageously, the head end control 27 can perform a variety of tasks as summarised hereinbelow:

- (1) As instructed by the control/switching system 6, it may connect/disconnect any specified video feed (and therefore TV channel number) to a given set-top box.
- (2) In operation mode, only it may allow one source to be patched to one destination. In supervisor mode it may allow one source to be patched to multiple destinations.
- (3) It may respond to a general status request which should give a general status message indicating the general health of the component.
- (4) It may respond to a connection status request which should give a connection status message supplying information of which video source is patched to which video destination and the reference number of the message which instructed the switching with a date-time stamp. If a dedicated interfacing system is used at the head end, these events should be logged to a file.
- (5) It may accept an error condition indication from the control/switching system 6.
- (6) It may accept a supervisor password change request.
- (7) The control/switching system 6 may be able to request time of day from the switching interface 26.
- (8) The control/switching system 6 may be able to set the time of day for the switching interface 26.
- (9) The control/switching system 6 may be able to manage the head end subscriber management system/control switch log-on process.
- (10) It may monitor the system components in operation and have its own simplified logging to a file.

The head end control 27 may also keep a record of parameters such as: system password; current video channel and set-top box IDs; one-time switch reference per switching instruction; connection and component

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status; knowledge and interpretation of response and error conditions, messages and codes from the control/switching system 6; and time of day.

With regard to the interaction between the switching interface 26 and
5 the head end control 27, it should also be noted that any one output from the switching interface 26 can be hard-wired to a particular dedicated TV channel (for example, output #1 might feed channel 36, output #2 might feed channel 39 etc). By the application of control signals to the head end subscriber management system, used to enable/disable particular video channels on
10 demand at the customer's set-top box decoder 9, it becomes possible to enable these TV channels at one, and only one, customer set-top box decoder 9.

The broadcast network 28 comprises an interface which, for example, may be provided by a terrestrial service provider (such as Cable TV) or by a satellite service provider. The interface preferably comprises an audio feed
15 interface and a video feed interface. Typically, video signals are delivered to the network in ATM format, or in individual channelised feeds compressed to the MPEG2 standard, or in compressed composite video format. Audio signals are envisaged to be delivered to the network in ATM format, or in separate audio channelised format, or in audio/composite video mixed format.
20 Audio feed can, therefore be provided alongside video through the use of independent transmission paths for voice and video in the system 1. This confers a definite advantage in that the effect of transmission delays to the remote customer location 2 is minimised.

To avoid unnecessary repetition, it should finally be noted from Figure
25 2 that the control/switching system 6 performs a variety of key functions in co-operation with the other components 3 to 5 when the system 1 of the invention is in use; for example, the control/switching system 6 can look for messages telling it that it has incoming telephone calls from remote customers, and can route those customer calls out to agents working at
30 particular workstations in the central provider 4, and can handle particular

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requests, for example, to put those calls on hold or transfer them to other agents or a supervisor. It can also make requests into the broadcast system 5 in order to set up video channels and to tear them down on completion of an interactive agent-customer communication session. It can also perform supervisory functions so as to provide general and specific management information about the system in use.

Additional facilities may also be provided by the system 1 of the invention. The central provider 4 may, for example, provide a database adapted to store and retrieve information associated with the operation and maintenance of the system 1. Typically, the information to be stored divides into four groups, namely: (1) parameters for configuration and operation of system, for example, action to take on various failure events ("static data"); (2) semi-permanent information, such as names of operators signed on, call status etc. ("dynamic data"); (3) decision criteria for incoming call distribution ("call routing data"); and (4) audit log for maintaining a history of all calls, callers and significant events ("audit data"). For completeness, Tables 1 to 4, presented hereinbelow, provide some parameter listings corresponding to the above-mentioned four categories of data, all of which can be stored securely and reliably in the database facility.

20

Table 1

Videocentre Static Parameters	
1.	List of Agent Workstations, IDs and TCP/IP Addresses
2.	List of valid Agent Names and IDs with Agent Grouping and the services provided by the groups
3.	List of valid PABX/ACD Directory Numbers for extensions and trunks and type of event monitoring to be applied
4.	Time-out Periods to use for each message type
5.	Actions to take on receiving failure indication per component and per call status

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Table 2

Videocentre Dynamic Parameters
<ol style="list-style-type: none"> 1. General System Status 2. System Status of individual Videocentre components 3. Call Status of all calls in progress 4. List of Agent Names and IDs currently logged on

Table 3

Videocentre Call Routing Parameters
<ol style="list-style-type: none"> 1. List of CLIs with associated, prioritised Agent IDs 2. List of CLIs with Normal Service Provided 3. List of CLIs for which no stats are to be recorded either for Agent IDs and/or Normal Service provided <p>Note that the Call Routing will also make use of the following Dynamic Parameters:</p> <ol style="list-style-type: none"> 1. List of Agent Names and IDs currently logged on 2. Call Status of all calls in progress

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Note: The call routing actions are subject to operational requirements. These vary from routing the call to the agent that has had the longest idle time, to complex algorithms based on the incoming callers ID (CLID), time of day, shopping history, available agent base, etc.

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Table 4

Audit Log
<ol style="list-style-type: none"> 1. Each entry will be fully Date-time stamped 2. Call Status: for each change in call status there will be an entry which shows the call status as: "Ringing/ Pre-Order/ Order/ Delivery/ Wrap-up/ Post-order/ etc" and with this the "One-time Call Reference" and any associated valid information: "Workstation ID"; "Extension and Trunk DNs"; "Agent Name and ID"; "Error Messages and Codes" 3. Agent Status Change: "Agent Name and ID"; "Logging ON/OFF"; "Shop/Chat/Ready/Not-ready/etc." 4. Component Status Change: "Initialising/Ready/Fault/Closing-down/etc"; "Error/Status Message and Code" 5. System Status Change: "Initialising/Ready/Fault/Closing-down/etc"; "Error/Status Message and Code" 6. All Videocentre Supervisor actions taken from log-in to log-out, including transfer into and out of agent, call-handling mode

5 The central provider 4 or the control/switching system 6 may also provide a supervisor facility for overseeing and managing the configuration, maintenance and installation functions of the system 1 of the invention. The term "supervisor" is used generically here, and it is envisaged that there are various levels of security access provided by the facility with various associated passwords; for example, the supervisor facility may have separate

10 passwords associated with the system's configuration/maintenance/installation functions.

15 The supervisor facility hardware is envisaged to be as for an agent workstation (including PABX/ACD headset), so that not only can the supervisor listen in on calls, but also can act as a supplementary agent as required. The converse is also true; with the correct software installed, a supervisor would be able to log in at any agent workstation as required. The supervisor would be able to toggle between the two modes by simply clicking on appropriate buttons or clicking within a given window.

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From the workstation, the supervisor will be able to oversee and manage the system components. The screens provided will give warnings of error conditions as well as current statistics: calls in progress and their various stages: "shop/chat/ready/not-ready"; calls waiting, if appropriate; and "total value taken" either per item or per order.

The supervisor facility may have a direct link to access the data within the above disclosed database. The supervisor workstation may be able to request each call's status (refer to the dynamic parameters previously discussed) in order to make short term decisions, such as: listen in on call; operate as an agent to clear back-log of calls; etc. The supervisor workstation may also be able to generate reports from the videocentre audit log (see previous discussion) in order to make long term decisions: staffing levels; duty rosters; agent groupings; etc.

A summary of the respective functions provided by the supervisor facility is given hereinbelow:

- (1) Get/set time of day for any system component.
- (2) Request status of any individual or all system components directly. Although this is also available from the dynamic data stored within the database to which the supervisor has direct access, it is considered important to provide this direct link for resilience.
- (3) Adjust switch settings of the switching interface 26, either for maintenance purposes or to "listen in" to a video channel on an appropriate monitor for agent supervision purposes.
- (4) Adjust switch settings of the head end control 27.
- (5) Configure and operate the voice recorder 13 remotely.
- (6) Configure and operate the interactive voice response system 13 remotely.
- (7) Request/cancel listen in to a particular agent 29.
- (8) Notify the supervisor of system security violations.

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In addition to a general knowledge of the system 1, its components and the various status and error message possibilities, the supervisor facility may need to keep a record of, inter alia.

system component references; knowledge and interpretation of response and error conditions; messages and codes from the system; and time of day.

The system 1 of the invention can also advantageously provide shop operating statistics and broadcast network infrastructure statistics, in use. The below Table (that is, Table 5) shows a typical listing of such statistics, for a particular cable node area, generated by a statistics model of the system 1.

Table 5

CABLE INFRASTRUCTURE STATISTICS				
	Value	Value	Value	Value
Cable Areas:	Area A	Multi Area	Multi Area	Multi Area
Homes Passed:	220000	450000	450000	750000
% Users Shopping:	5%	5%	8%	8%
No. of 500 Home Nodes:	440	900	900	1500
Max Active Number of Channels Per Node:	0.18	0.18	0.28	0.29
Channel Allocations Required Per Node:	2	2	3	3

SAMPLE GROCERY SHOP OPERATING STATISTICS				
	Value	Value	Value	Value
	Year 1	Year 2	Year 3	Year 4
Home Shop Store Customer Base	11000	22500	36000	60000
No. of Customers in Each Week	9607	19650	31440	52400
Max No. of Operators	80	159	253	439
Av No. of Operators	25	47	71	118
Maximum No. of Calls in Busy Hour	347	711	1137	1976
Grade of Service	2%	2%	2%	2%

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The model provides statistical information on, for example, (1) the maximum number of simultaneous users of the system; (2) the average number of simultaneous users of the system during operating hours of the shop; (3) the number of TV broadcasts set up (and cleared down) during operating hours of the shop; (4) the probability that a particular channel or agent will not be available when the customer (shopper) calls to the shop; (6) the maximum number of active channels per node to provide information on the number of shoppers simultaneously using the service within each geographic node area, and (7) the channel allocation required per node to ensure that a channel is available in a geographic node area when the shopper wishes to shop.

In operation of the thus described system 1 of the invention, in the context of TV shopping in the home, it will be understood that effecting a successful shopping transaction between a customer and an agent (the product/services provider) typically involves the following steps, namely:

- (1) the customer calls a telephone number, associated with the system 1, from a remote customer location (his/her home, for example);
- (2) the telephone call is routed using ACD (Automatic Call Distribution) based equipment to an available agent;
- (3) the agent identifies (using validation codes etc.) the customer caller and instructs the caller to select a particular TV channel number on the customer TV set;
- (4) the customer is provided with a picture of the "home shop" (including an inset live picture of the agent) on the TV screen - this is, typically, achieved by equipping the agent position at the central provider with a camera, mixing the video signal with computer generated graphics, compressing the image to MPEG2 standards (typically) and providing the signal to a head end (with appropriate consumer identification information) for transmission across a broadcasting network (a CATV network, for example);
- (5) the customer visually inspects the available products on the TV screen and then, if appropriate, shops by speaking direct over the telephone to the agent;
- (6) the customer hangs up the telephone once

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the shopping transaction is completed. This final action, on the part of the customer, frees the particular video channel for future use.

Figures 3(a) and 3(b) of the accompanying drawings illustrate schematically the initialisation and closedown process sequences typically for setting up and closing down a TV channel in the system 1 of the invention in use. As shown in Figure 3(a), the control/switching system 6 first communicates with the head end control 27 (in response to a request by an agent, for example) by making a log-on request. In the event that the head end control 27 recognises the log-on sequence such that the request is accepted, the control/switching system 6 can proceed to request the head end 27 to set up a particular TV channel for use. The head end 27 is configured to report the changed status back to the control/switching system 6. In Figure 3(b), the process sequence of Figure 3(a) is shown in reverse order so as to show how an existing TV channel session is closed down.

An agent 29 can readily gain access into the system 1 of the invention by entering a particular log-on sequence with an associated password into the system 1, and Figure 4 shows a corresponding process diagram to accomplish this. As shown in Figure 4, the agent 29 at the central provider 4 makes a log-on request and enters a password into the control/switching system 6, and this system 6 can validate these entries by checking them against sequences stored in the database facility 30. In the event that the agent's log-on sequence matches a particular sequence in the database 30, the control/switching system 6 is able to respond positively to the agent 29 by way of accepting the log-on request, and the agent is then enabled by the system 1 to receive a customer call. If desired, the agent 29 is able to change his/her own password provided that the database 30 can validate the agent's identity in a manner as discussed above. As shown, the control/switching system 6 may also be equipped with a timer in order to prevent the agent 29 from entering into the system, should that agent 29 fail to enter a valid log-on sequence within a prescribed period of time.

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Figure 5 of the accompanying drawings is a simple process diagram showing how an audio call connection is typically set up between the remote caller 10 and one of the agents 29 at the central provider 4. As shown in the figure, the remote caller 10 initially dials up the system's telephone number.

5 The resultant telephone call is received by the switching system 16 (for example, a PABX/ACD switch) which routes the call, typically, to the control/switching system 6. The control/switching system 6 may then (a) route the call to the database facility 30 for call labelling/validation purposes and (b) alert one of the agents 29 at the central provider 4 that it has received

10 an incoming customer telephone communication. One of said agents 29, if available, is accordingly enabled to respond to the customer call and identify the customer caller 10 if unknown.

Figure 6 of the accompanying drawings shows a similar process diagram to that of Figure 5, the difference here being that the

15 control/switching system 6 is adapted to re-route the customer call from one agent (agent 1) to another agent (agent 2) should the first agent (agent 1) not be able to respond to the customer call (on account of an error condition, for example). Figure 6 uses the same reference numerals as were used to designate same/like parts in the description of Figure 5.

20 Figure 7 of the accompanying drawings is a process diagram showing how a video path for a particular television channel using CLI (Calling Line Identifier) is set up in the system 1 of the invention. For the avoidance of repetition, it should merely be noted that a request is effectively made to the control/switching system 6 to set up a video path for a TV channel and to

25 communicate with the head end control 27 in order to request the channel. A response is then expected on the TV channel that has been allocated for the particular session. Further, as shown in the figure, the agent 29 is enabled to tell the customer what channel the television picture will be available on, because the control/switching system 6, by co-operating with the database 30,

30 matches the identifier of the customer caller 10 using the caller's telephone

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number with a set-top box identifier (typically) so as to route video through to the respective customer box. This figure again uses the same reference numerals as were used to designate some/like parts in the description of the previous figures.

5 Figure 8 of the accompanying drawings is another process diagram showing how a video path for a TV channel can be set up in the system 1 of the invention, but without using CLID (Calling Line Identifier). The process sequence, as shown in the Figure, is initiated from the agent side 29 who makes a request to the system to set up a video path. In response to that
10 request, the control/switching system 6 is enabled to communicate with the head end control 27, the switching interface 26 (a local video switch, for example), and the database 30, in a manner as previously discussed, such as to permit video (live video, for example) to be routed through to the customer box. Figure 8 again employs the same reference numerals as were used to
15 designate same/like parts in the description of the previous figures.

As discussed previously, the system 1 of the invention may provide a "supervisor" facility for monitoring agents 29 working at particular agent workstations at the central provider 4, and Figure 9 of the accompanying drawings shows an example process diagram to accomplish this. As shown in
20 Figure 9, the process sequence is initiated by the "supervisor" 31 which makes a request to the system to monitor, for example, a particular agent 29 at one of the agent workstations. Accordingly, in response to that request, the control/switching system 6 is adapted to communicate with the database 30 (for identity validation of the "supervisor") and also to re-route control signals
25 to the switching interface 26 and the switch system 16, respectively. In the event that the request made is validated the "supervisor" is enabled to perform its monitoring function.

As discussed previously, the system 1 of the invention can handle requests, for example, from agents to (a) put incoming customer calls on hold
30 or (b) to transfer the incoming customer calls to other agents or a supervisor,

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and Figures 10(a) and 10(b) of the accompanying drawings show example process diagrams to achieve functions such as these.

5 In Figure 10(a), the agent 29 makes a "call on hold" request to the system in response to which the control/switching system 6 re-routes video and audio signals on hold to the database facility 30 and to the switch system 16, respectively. The remote customer caller 10 is typically requested to "please hold" and thereafter, within a prescribed period of time, the same agent 29 can make a request to retrieve said video and audio signals on hold to enable their subsequent transmission to the caller 10.

10 In Figure 10(b), a first agent (agent 1) makes a "call on hold" request to the system in response to which the control/switching system 6 re-routes video and audio signals on hold to the database facility 30 and to the switch system 16. The remote customer caller 10 is typically requested to "please hold" and thereafter, once a prescribed period of time has elapsed, the control/switching system 6 re-routes (that is, transfers) the customer call from
15 the first agent (agent 1) to a second available agent (agent 2). The first agent is disconnected from the head end feed of the system and the second agent is enabled to establish video and audio communications with the caller 10. The system may, as shown, provide an apology to the caller 10 for keeping
20 him/her on hold beyond a prescribed period of time.

It is to be noted again that Figures 10(a) and 10(b) use the same reference numerals as were used to designate same/like parts in the description of the previous figures.

25 Figure 11 of the accompanying drawings is an example process diagram showing the closedown of video and audio paths in the system 1 of the invention, after a shopping transaction is completed. As shown, the process sequence is started when the customer caller 10 hangs up the telephone. This action triggers the agent subsystem 4 to transmit a "hang up" control signal to the control/switching system 6, which in response thereto,
30 re-routes control signals to the other shown system components 16,26,27,30

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such as to effect closedown of all existing video and audio paths, and thereby ensure that all TV channels are freed for future use.

Figures 12(a) and 12(b) of the accompanying drawings are example process diagrams showing how the various system components communicate with each other when there is (a) TV session network error recovery and (b) TV session network error failure.

In Figure 12(a), the control/switching system 6 is arranged to communicate with the head end control 27, the database facility 30, and the agent subsystem 4, and to detect typically a TV channel error condition associated with broadcast network node failure. Further, the system as shown is envisaged to possess recovery means for rectifying the detected error condition such as to permit the agent 29 to effect successful (error-free) transmission of video pictures on a particular TV channel across the network.

In Figure 12(b), the control/switching system 6 is arranged to communicate with the head end control 27, the database facility 30, the switch system 16, and the agent subsystem 4, and as in Figure 12(a), to detect any TV channel error conditions etc. In the event that an error is detected and that the system fails to rectify the detected error condition, an error notification can typically be passed to the agent 29 and also, an apology for the detected error in picture transmission across the network from the agent 29 to the caller 10 can be made (with, if appropriate, a request to the caller 10 to call back the agent later on).

Having thus described the invention by reference to an exemplary embodiment, it is to be well understood that the embodiment in question is exemplary only and that modifications and variations as will occur to those possessed of the appropriate knowledge and skills may be made without departure from the spirit and scope of the invention as set forth in the appended claims and equivalents thereof. For example, the system of the invention in use is not limited exclusively to TV shopping in the home. The system in use may encompass more generally the management of

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customer-supplier relationships (such as handling enquiries) using, for example, a combination of conventional telephoning combined with video media over broadcast services. In addition, it is envisaged that the remote customer subsystem may be provided with an on-screen menu facility having

5 activating means (a button, for example) such that, upon activation of the activating means by a remote customer, signals can be transmitted from the remote customer location to the central provider of the system, and thereafter, calls can be transmitted back to the respective customer from the central provider on a designated telephone number. In this way, audio

10 communications can be successfully established between the remote customers and the central provider of the system embodying the invention.

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CLAIMS:

1. An interactive system for enabling TV shopping from a central provider by remote customers, said system comprising:

5 means enabling video and audio communication to be established between the remote customers and the central provider, said means including distribution means enabling (a) incoming customer telephone communications to be routed to particular agent workstations of the central provider, there being a plurality of such workstations, and (b) outgoing audio and video communications from the plurality of agent workstations to be routed to the
10 respective customers from whom the incoming telephone communications are received;

means enabling agents working at said workstations to communicate interactively with the customers and provide to the customers video representations of available products to be viewed on the customers' televisions; and
15

means enabling the agents and the customers to effect transactions.

2. An interactive system as claimed in claim 1, wherein said distribution means comprises a control/switching system for enabling said customer
20 communications to be routed to and from said agent workstations of the central provider.

3. An interactive system as claimed in claim 1 or 2, wherein said means providing video representations of available products comprises graphics
25 generating means.

4. An interactive system as claimed in claim 1 or 2 or 3, wherein said means providing video representations of available products comprises signal mixing means for combining video signals generated at the central provider

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with graphics generated data and means for compressing the combined signals for transmission to the customers.

5 5. An interactive system as claimed in any preceding claim, wherein said means enabling agents to communicate interactively with the customers comprises a broadcast interface.

6. An interactive system as claimed in claim 5, wherein said broadcast interface comprises a video feed interface.

10

7. An interactive system as claimed in claim 5 or 6, wherein said broadcast interface comprises an audio feed interface.

15 8. An interactive system as claimed in any preceding claim, wherein the video representations provided to the customers are scrambled and are adapted to be unscrambled by a decoder at the respective customers' locations so as to permit said representations to be viewed on said customers' televisions.

20 9. An interactive system as claimed in claim 8, wherein the video representations are arranged to be viewed on a preselected channel of the customer's TV upon communication to the customer of the respective channel number by one of said agents.

25 10. An interactive system as claimed in claim 8 or 9, wherein the decoder and the customer's TV are integrally connected.

30 11. An interactive system as claimed in any preceding claim, further comprising means for recording the dialogue of interactive communications between the agents and the customers.

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12. An interactive system as claimed in any preceding claim, further comprising means for providing an automated attendant service to the customers when the agents are busy.

5 13. An interactive system as claimed in claim 12, wherein said means is an interactive voice responding system.

14. An interactive system as claimed in any preceding claim, further comprising image-capturing means for providing live representations of said
10 agents and/or of said available products at the central provider.

15. An interactive system as claimed in claim 14, wherein said image-capturing means comprises a camera.

15 16. An interactive system as claimed in any preceding claim, further comprising means for storing data in analogue and/or digital form.

17. An interactive system as claimed in claim 16, wherein said data storing means comprises a video library system.

20

18. An interactive system as claimed in any preceding claim, further comprising supervising means for providing a facility for overseeing the configuration and maintenance of said system in use.

25 19. An interactive system substantially as herein described with reference to the accompanying drawings.

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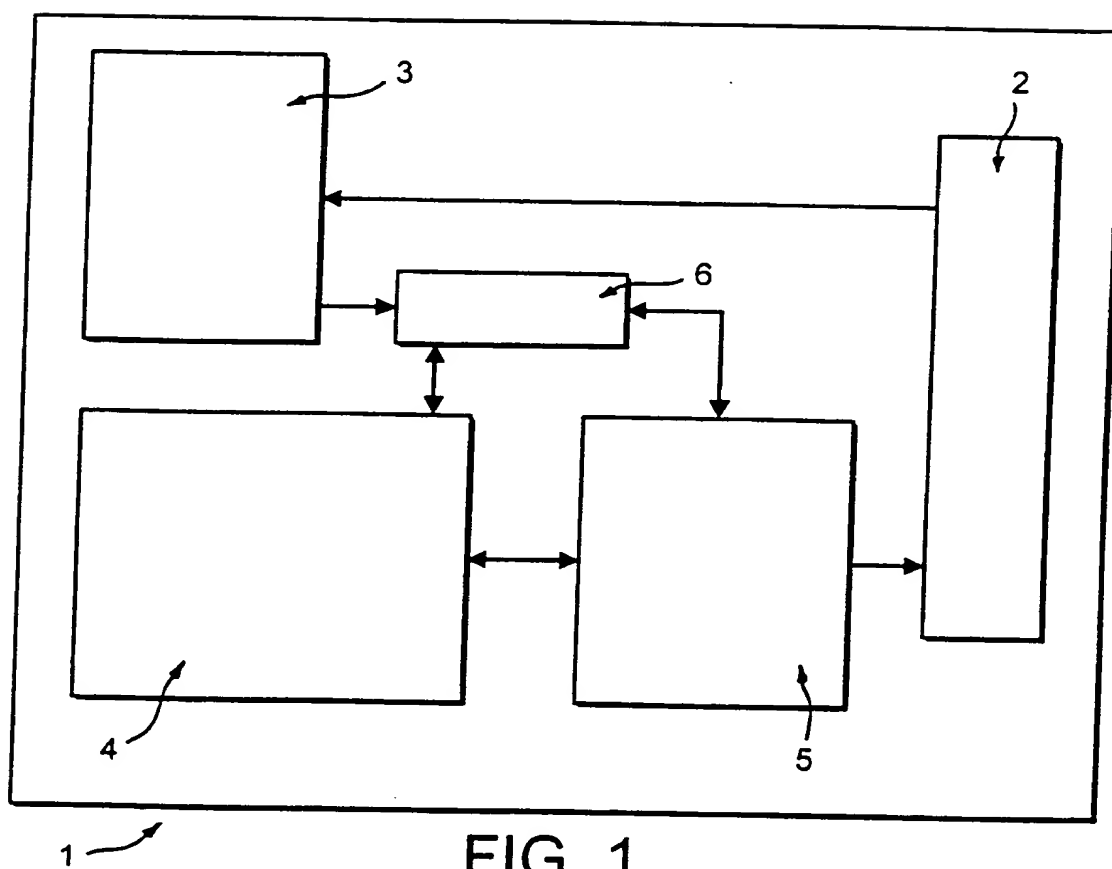


FIG. 1

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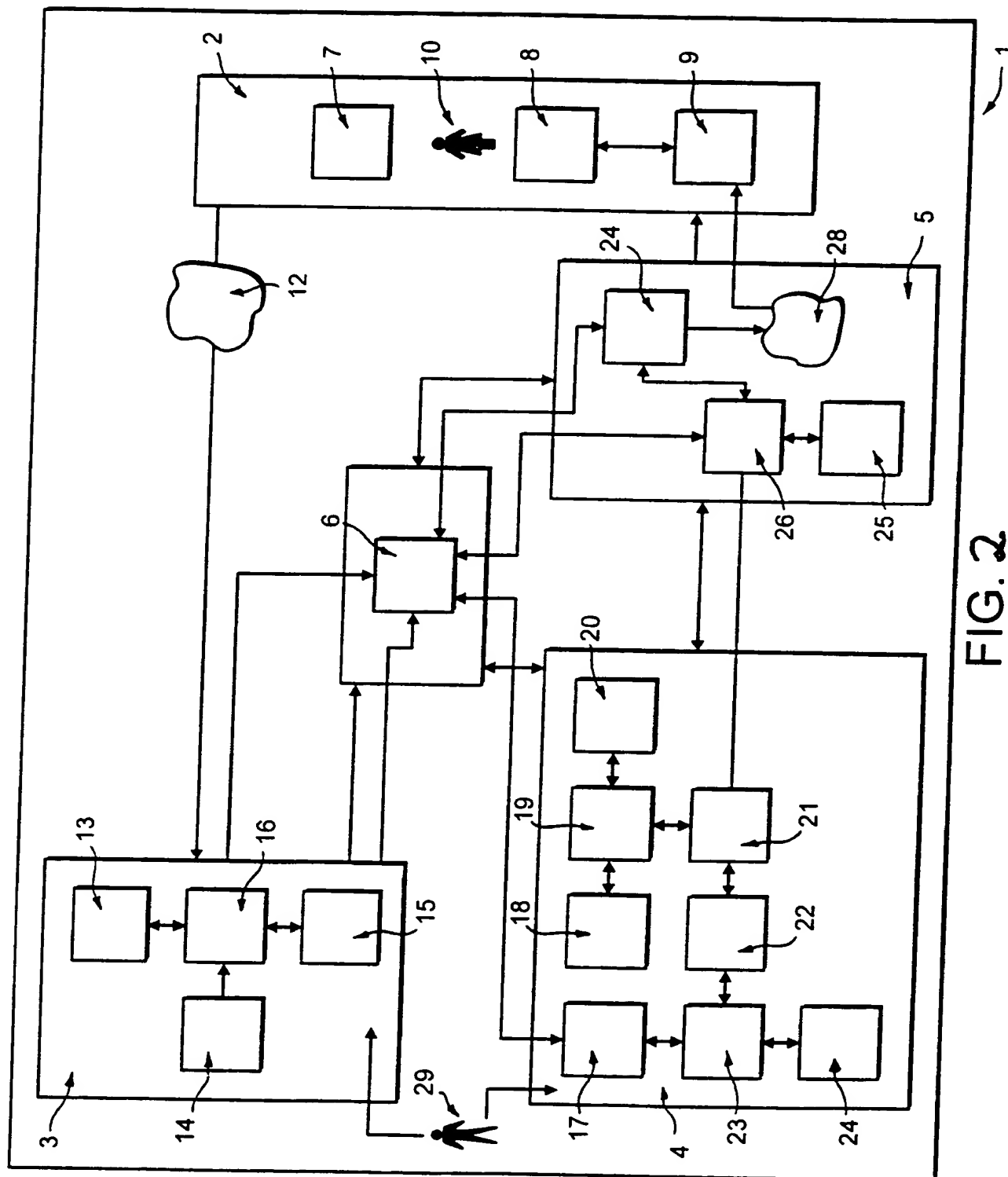
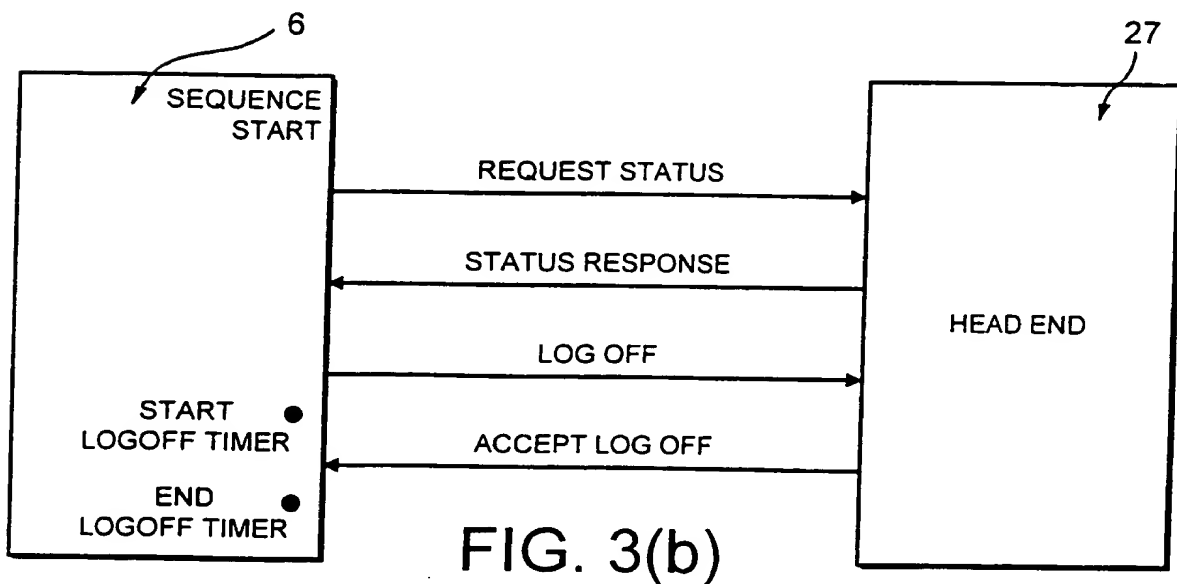
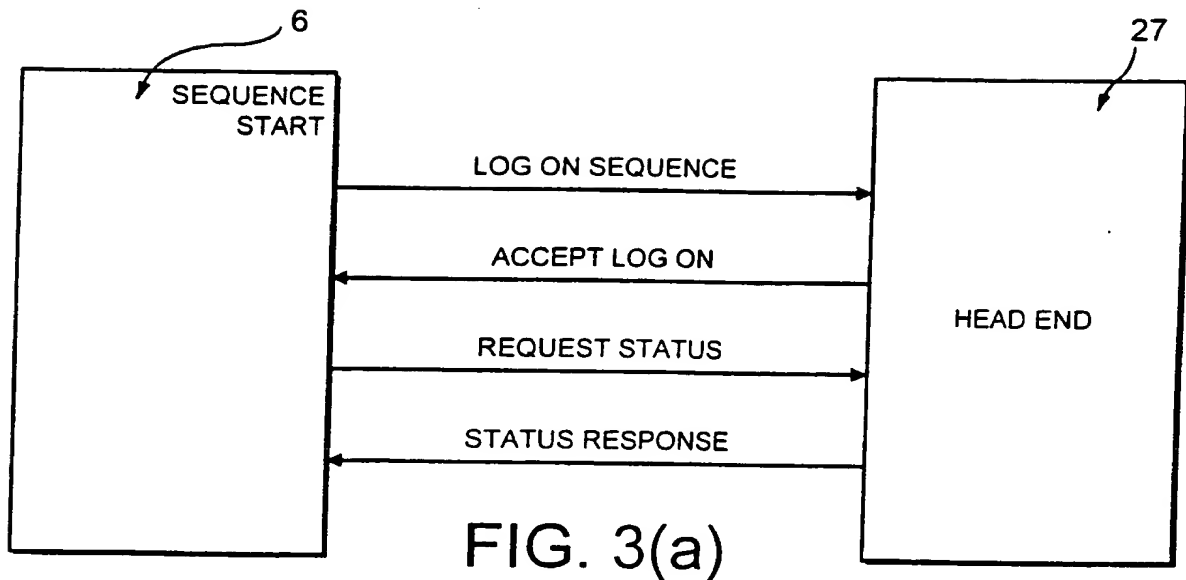


FIG. 2

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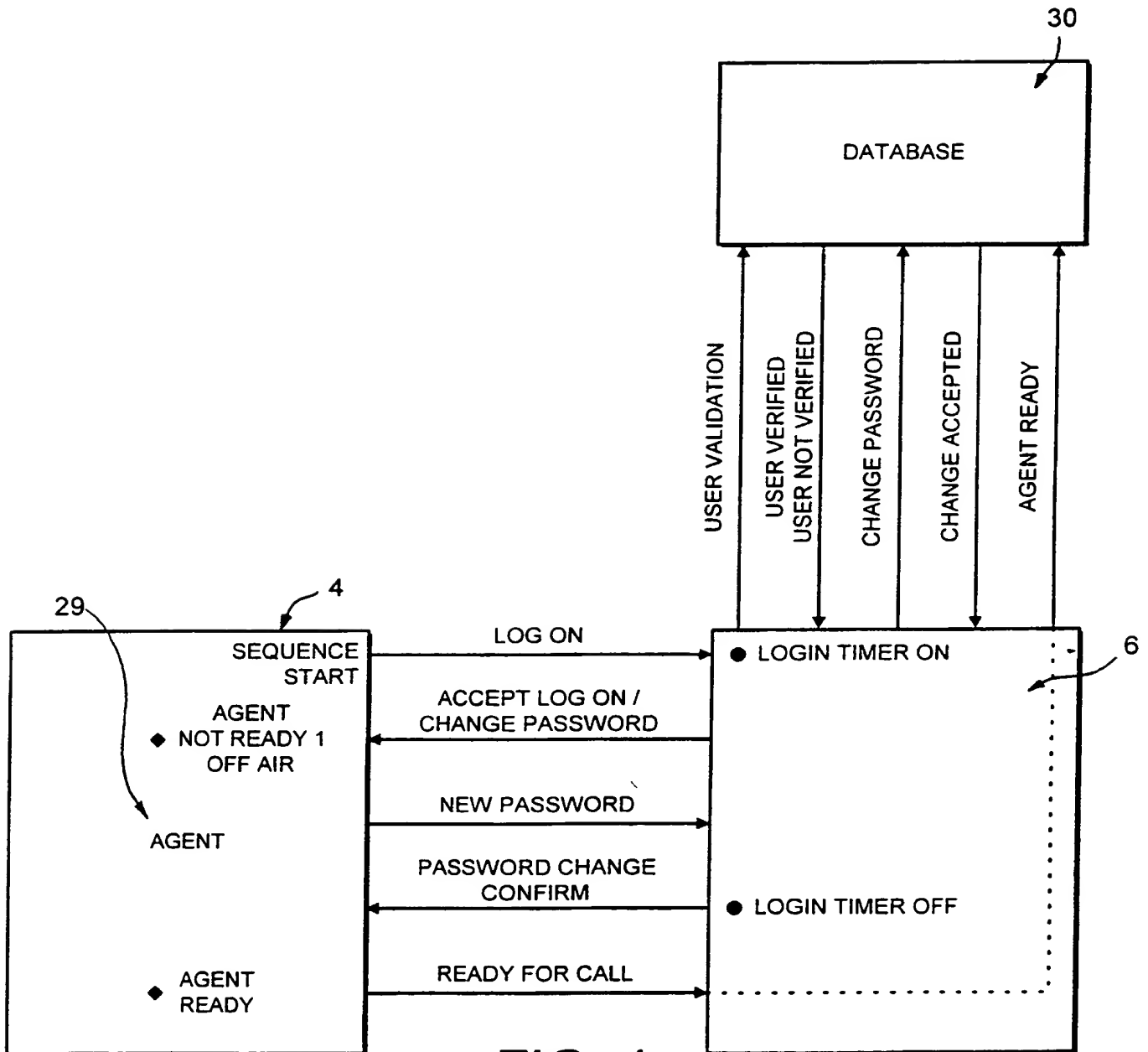


FIG. 4

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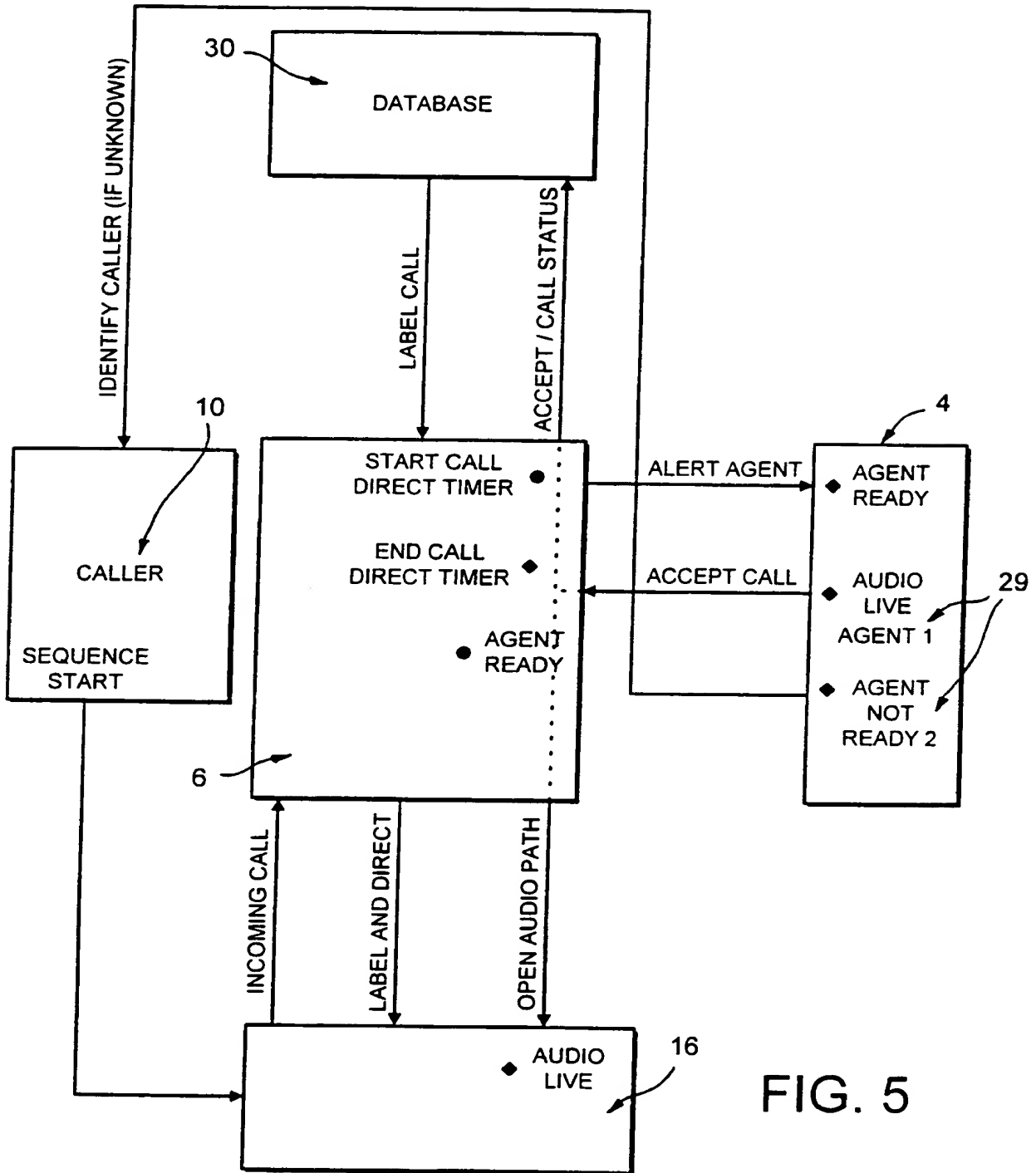


FIG. 5

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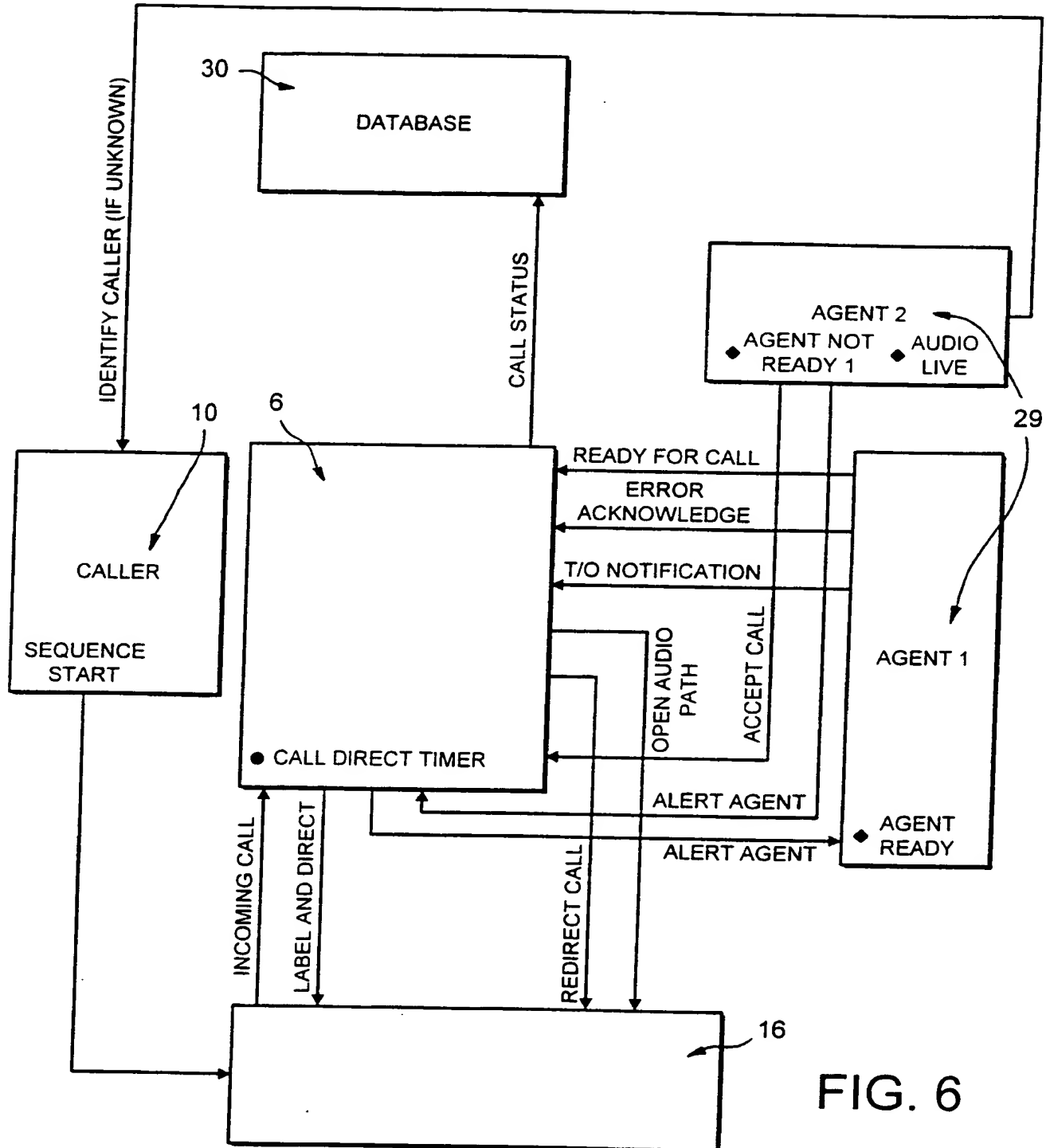


FIG. 6

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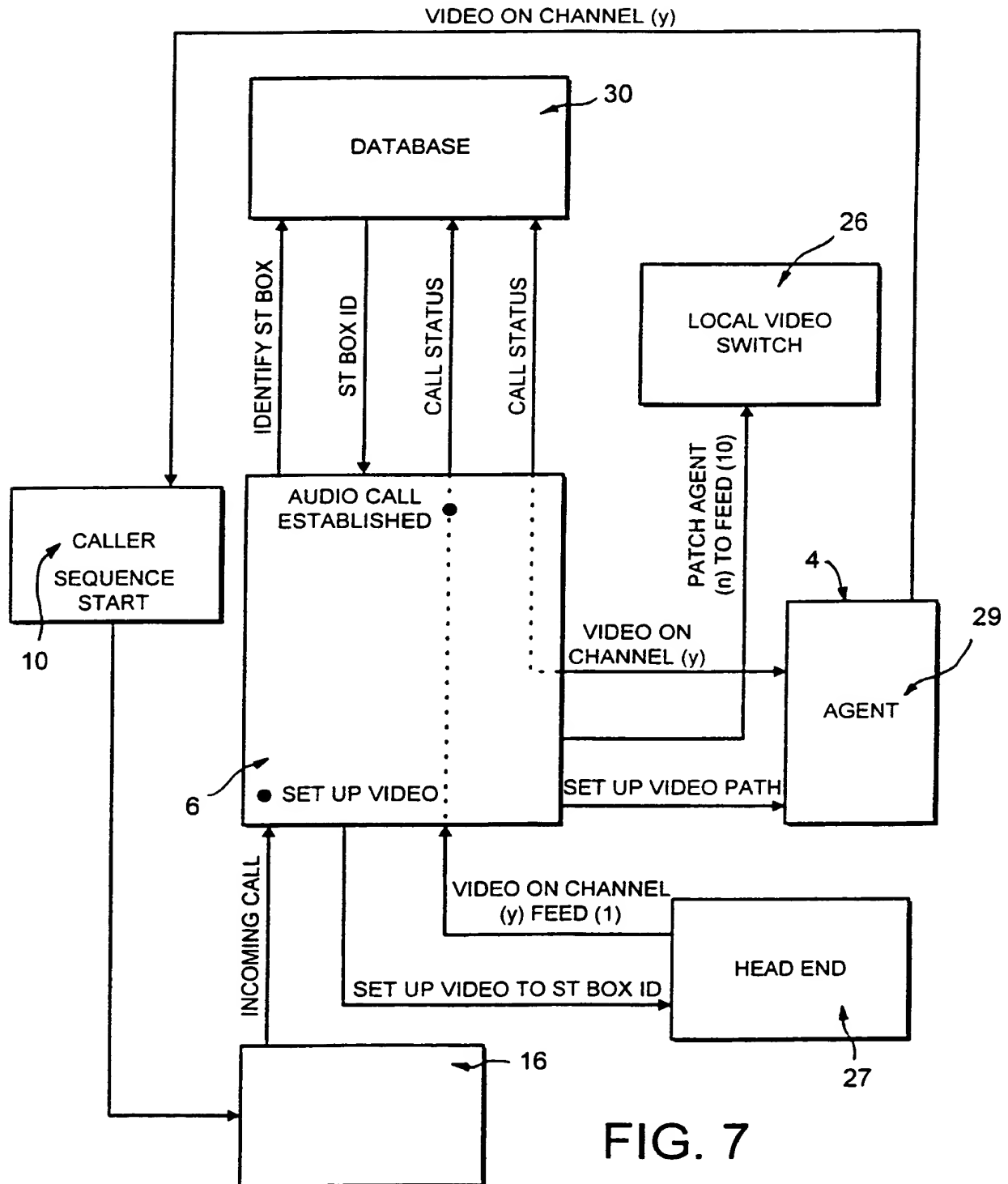


FIG. 7

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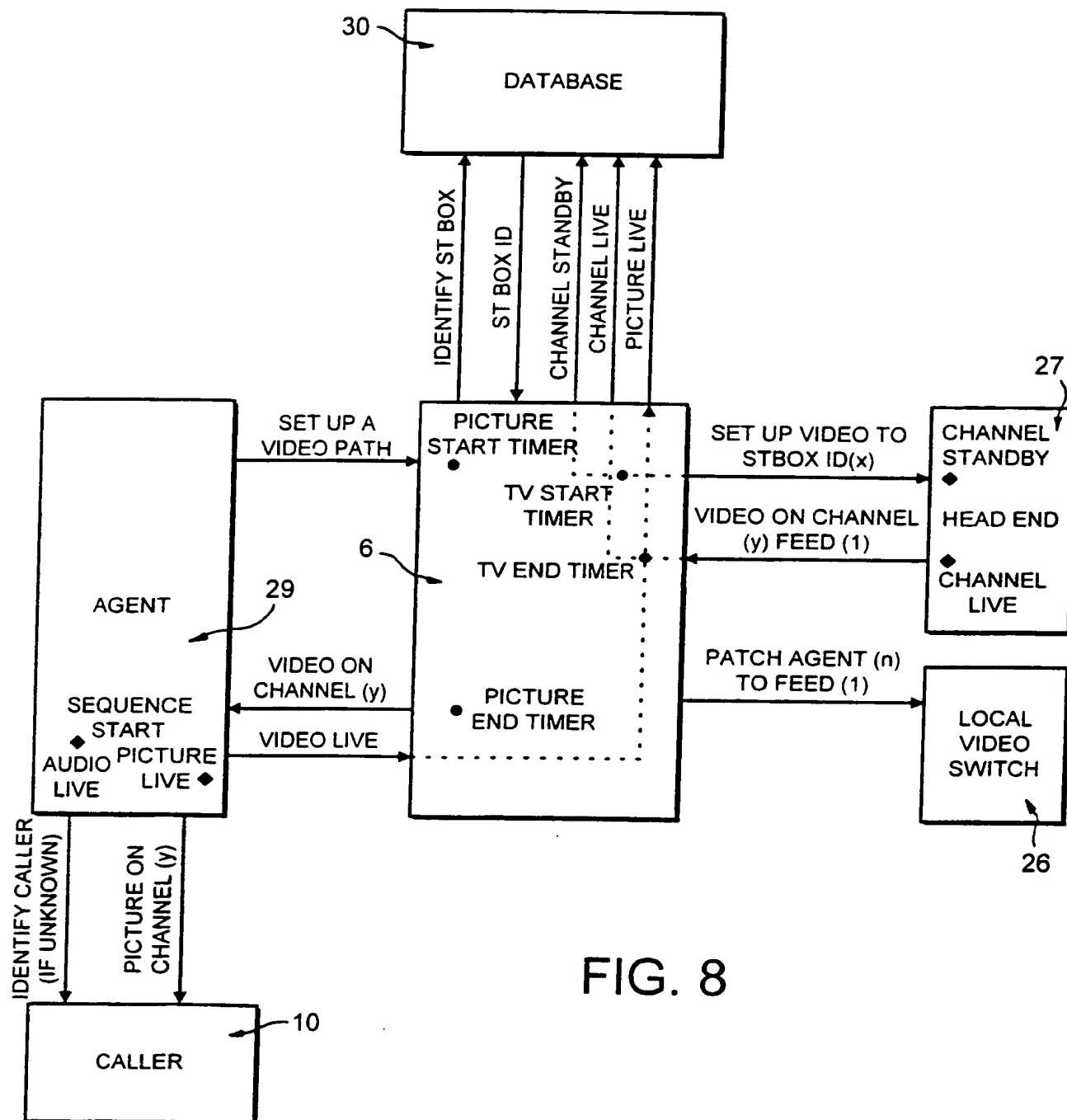


FIG. 8

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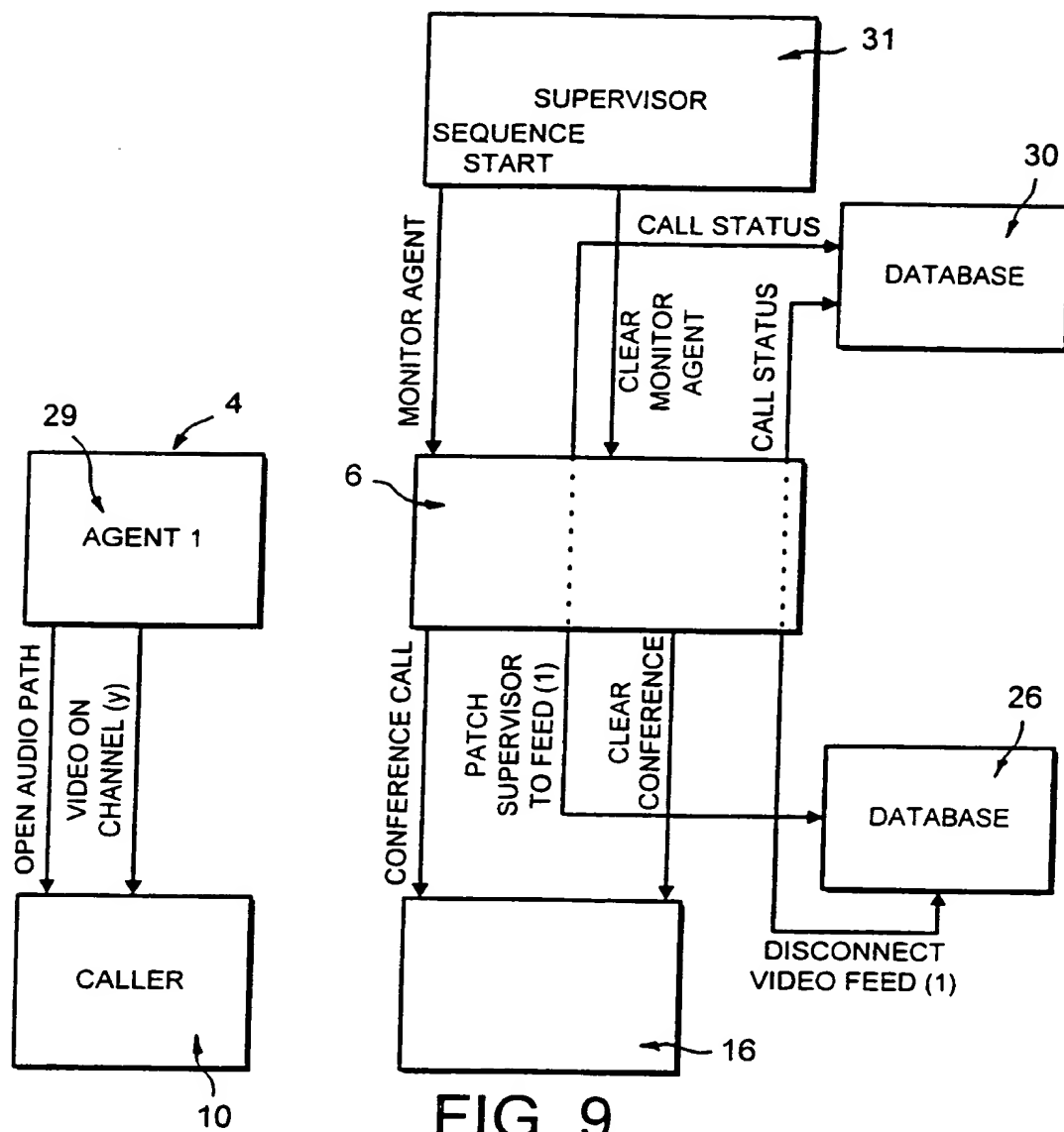
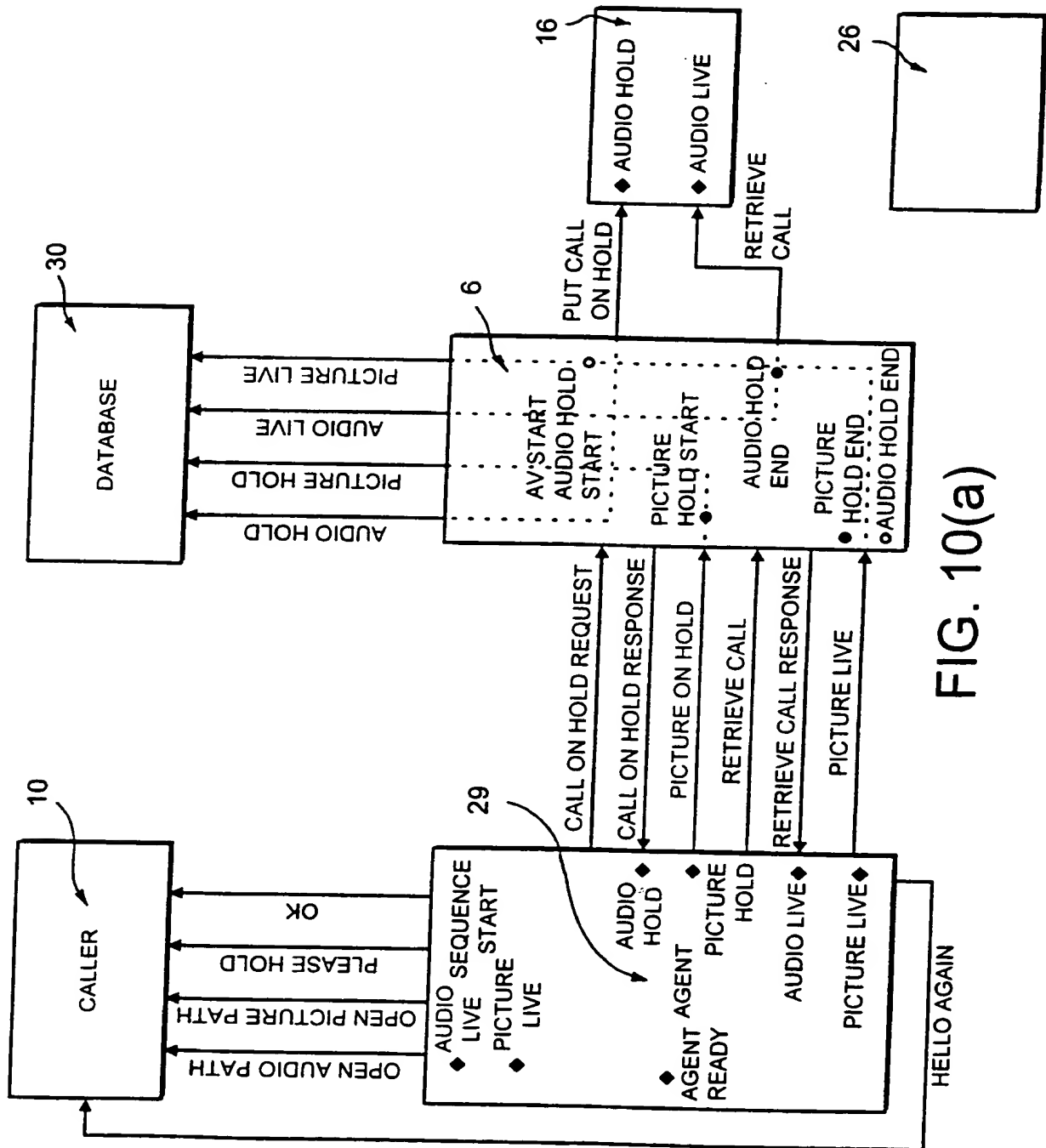


FIG. 9

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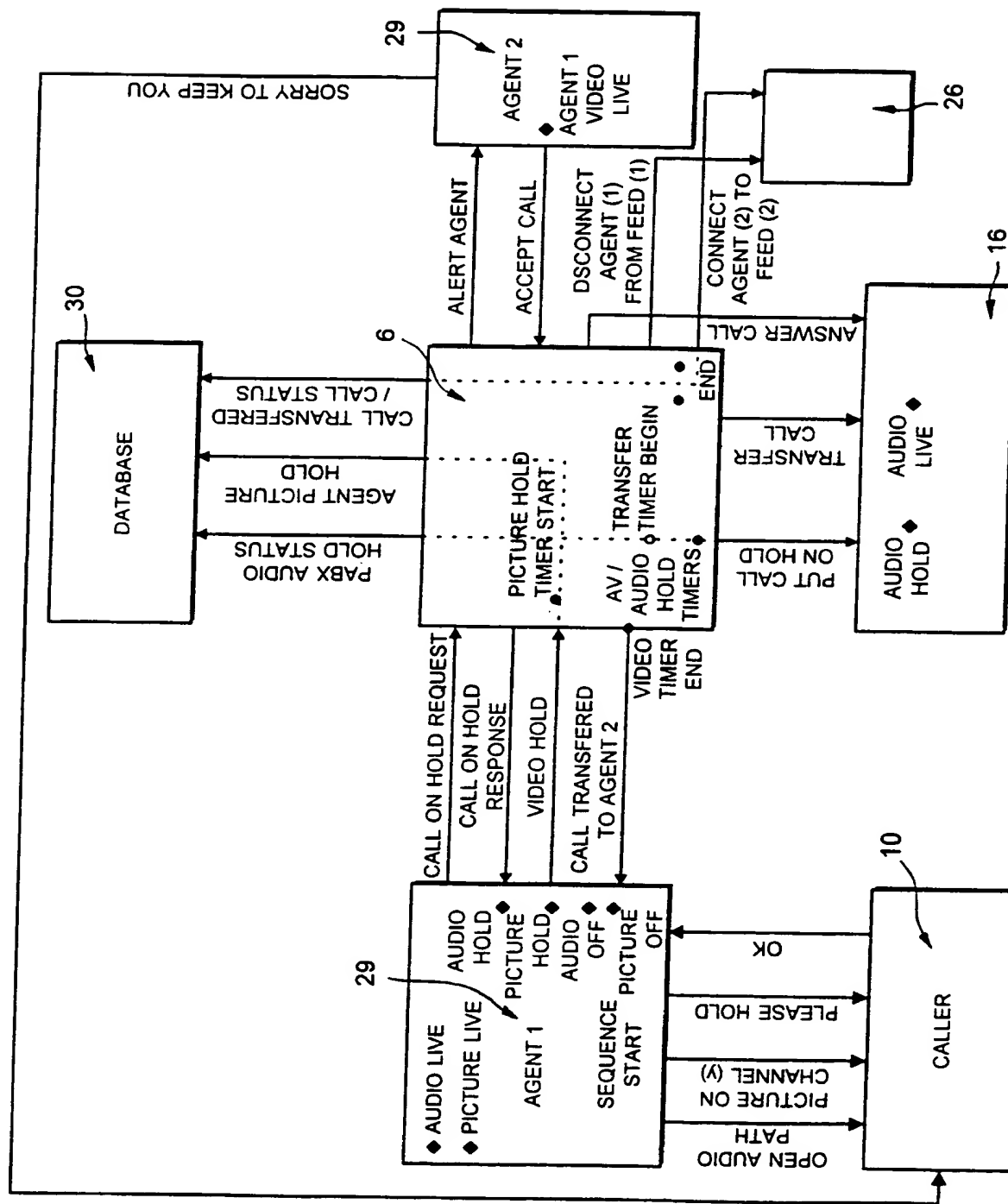


FIG. 10(b)

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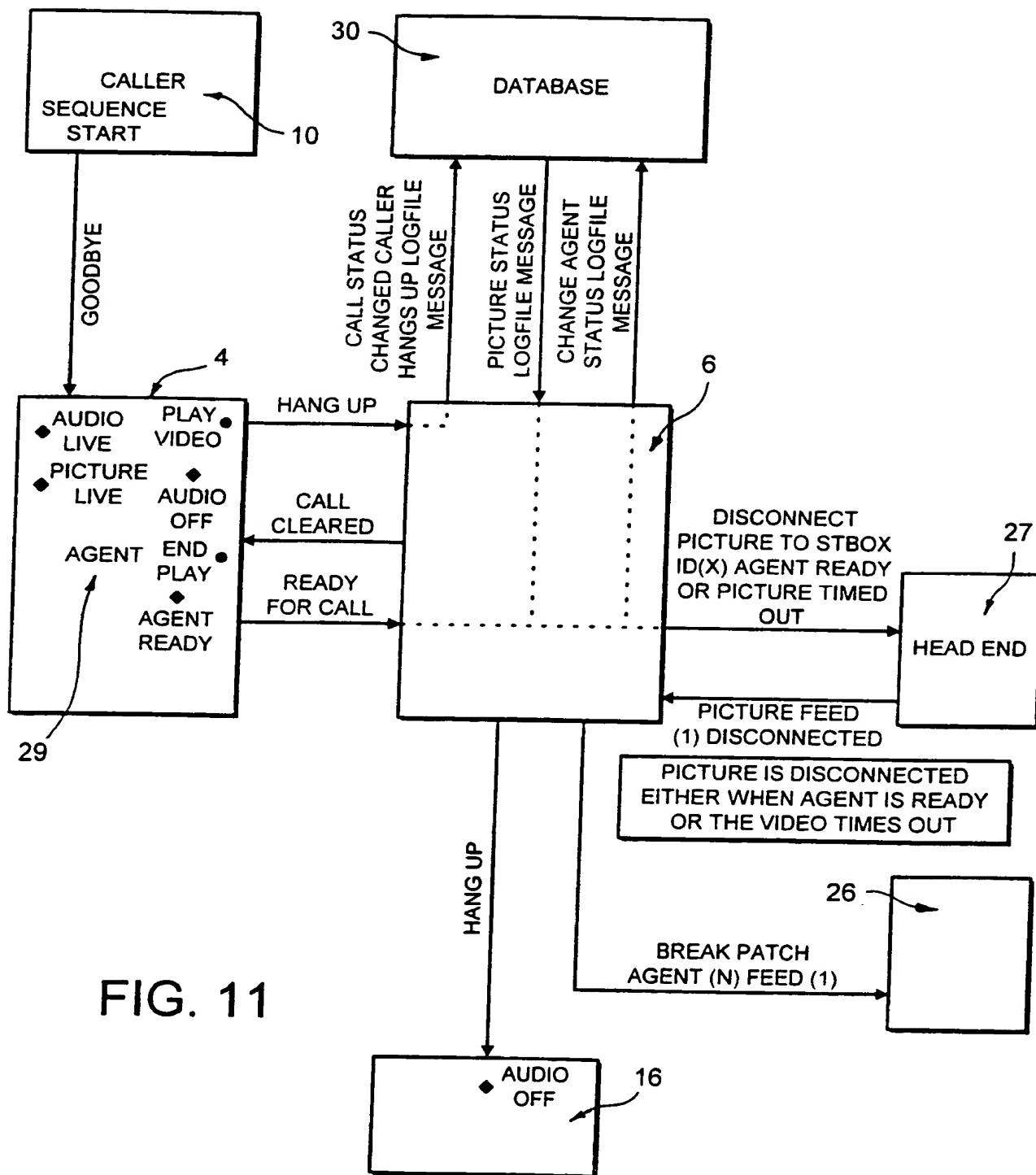


FIG. 11

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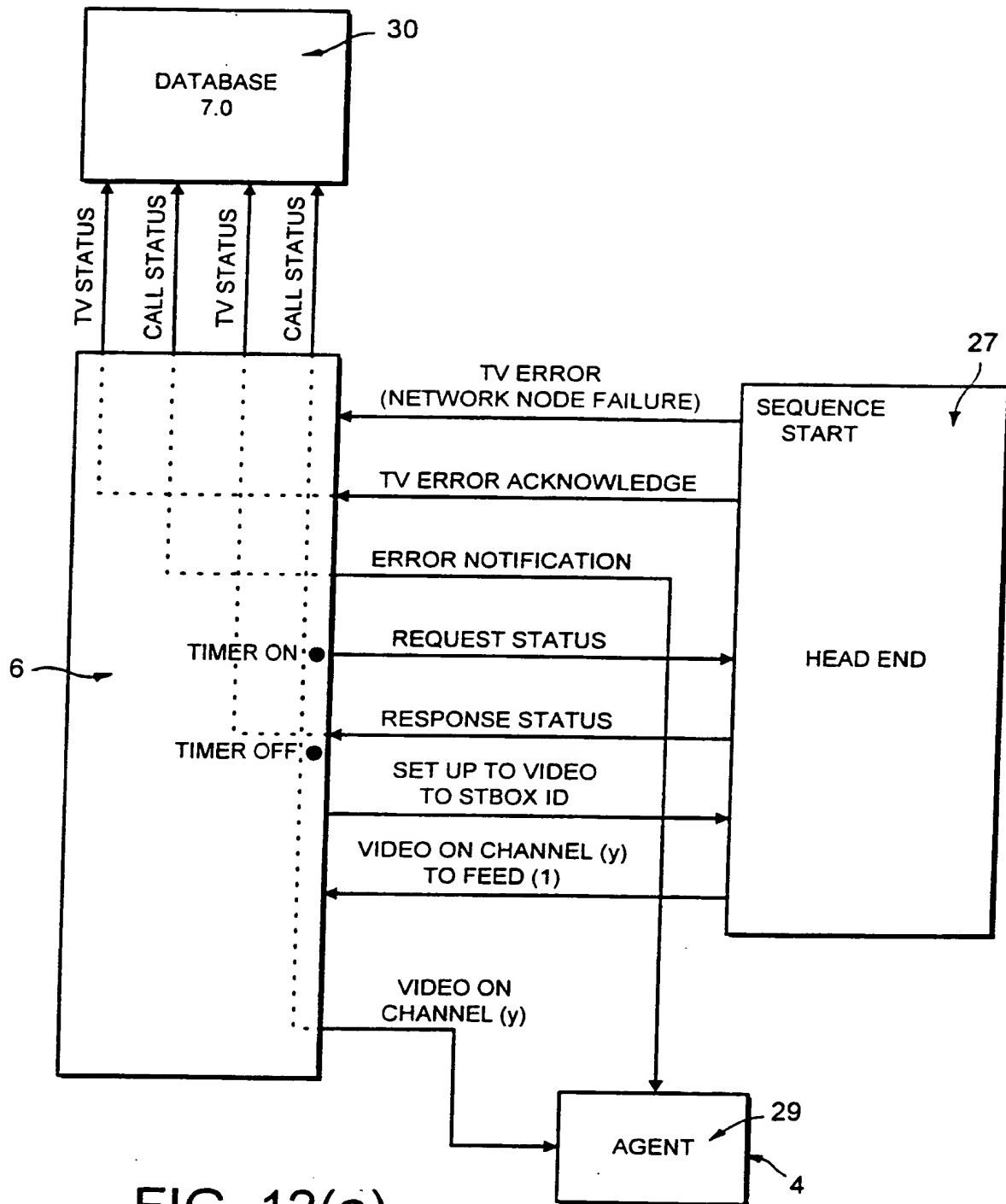


FIG. 12(a)

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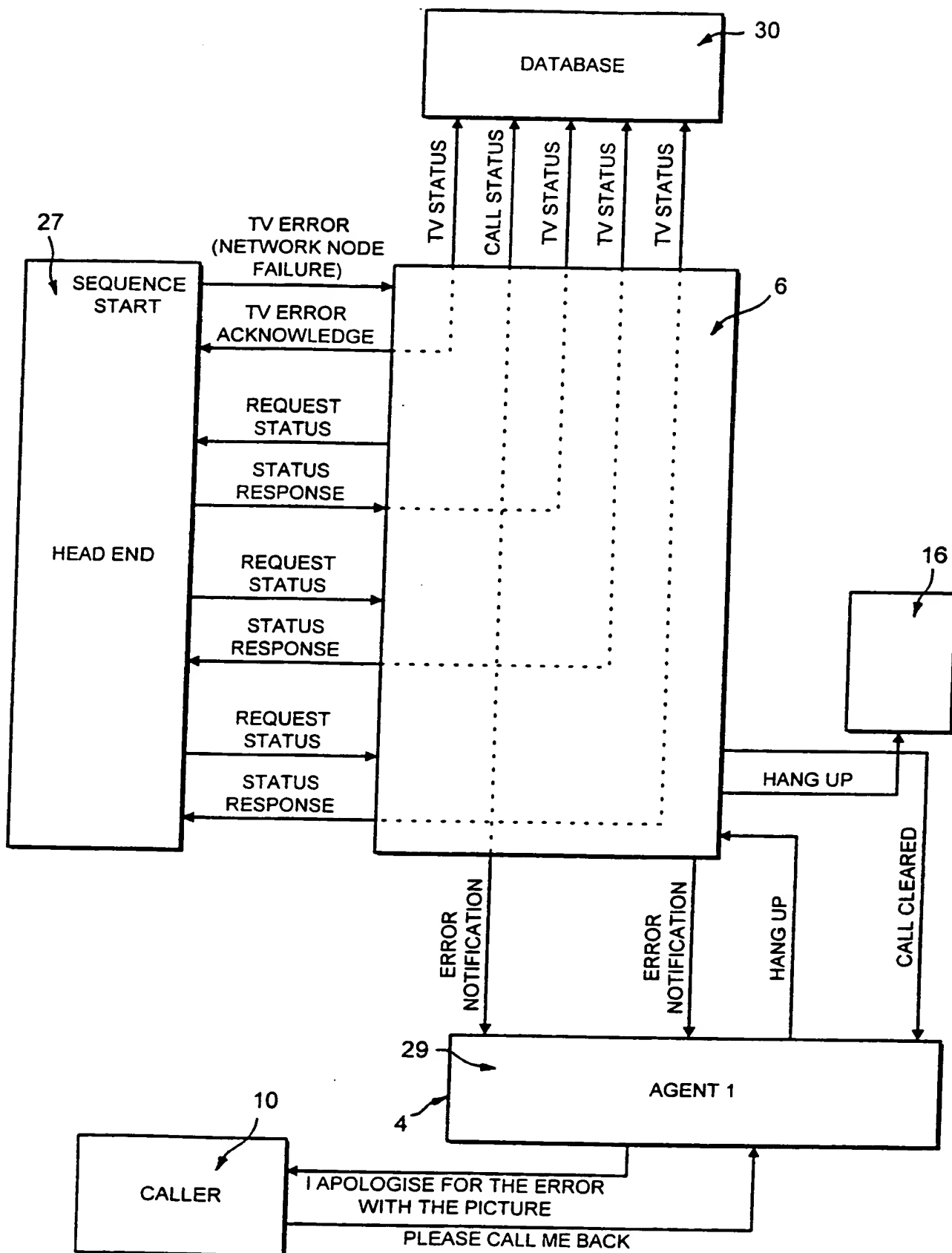


FIG. 12(b)

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 99/02665

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 H04N7/14 H04N7/173

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 207 838 A (TELACTION CORP) 8 February 1989 (1989-02-08) page 8, line 14 -page 18, line 25 figure 1	1-7, 12, 13, 16-18
A	WO 95 24796 A (APPLE COMPUTER) 14 September 1995 (1995-09-14) page 14, line 9 -page 17, line 8 page 18, line 4 -page 19, line 11 page 30, line 16 -page 37, line 18 figures 1-7	1-7, 14-18
A	EP 0 793 374 A (ROCKWELL INTERNATIONAL CORP) 3 September 1997 (1997-09-03) page 3, column 4, line 28 -page 4, column 5, line 41	1, 2, 5-7, 12-15
	-/--	



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search

4 November 1999

Date of mailing of the international search report

10/11/1999

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/02665

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 5 583 560 A (COREY GLENN ET AL) 10 December 1996 (1996-12-10) column 23, line 46 -column 24, line 44 figures 45-50</p> <p>-----</p>	1-7

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INTERNATIONAL SEARCH REPORT

form 1 patent family members

Inter. Application No

PCT/99/02665

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2207838 A	08-02-1989	US 4792849 A	20-12-1988
		AU 2043988 A	09-02-1989
		CA 1298908 A	14-04-1992
		CA 2010867 A	08-09-1990
		CN 1031457 A	01-03-1989
		DE 3820425 A	16-02-1989
		DK 428688 A	05-02-1989
		ES 2007226 A	01-06-1989
		FI 883633 A	05-02-1989
		FR 2619273 A	10-02-1989
		IT 1226436 B	15-01-1991
		JP 1106541 A	24-04-1989
		LU 87305 A	02-02-1989
		NL 8801259 A	01-03-1989
		SE 8801613 A	05-02-1989
		US 5113496 A	12-05-1992
		US 5191410 A	02-03-1993
		US 5195092 A	16-03-1993
WO 9524796 A	14-09-1995	AU 1846195 A	25-09-1995
		EP 0749661 A	27-12-1996
		JP 9510065 T	07-10-1997
EP 0793374 A	03-09-1997	US 5831665 A	03-11-1998
		CA 2195899 A	25-07-1997
US 5583560 A	10-12-1996	AU 7176494 A	17-01-1995
		WO 9501059 A	05-01-1995

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference J00024475W0	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/GB 99/ 02665	International filing date (day/month/year) 12/08/1999	(Earliest) Priority Date (day/month/year) 14/08/1998
Applicant NISABA GROUP LTD. et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

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☐ None of the figures.

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 99/02665

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 H04N7/14 H04N7/173

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 207 838 A (TELACTION CORP) 8 February 1989 (1989-02-08) page 8, line 14 -page 18, line 25 figure 1	1-7, 12, 13, 16-18
A	WO 95 24796 A (APPLE COMPUTER) 14 September 1995 (1995-09-14) page 14, line 9 -page 17, line 8 page 18, line 4 -page 19, line 11 page 30, line 16 -page 37, line 18 figures 1-7	1-7, 14-18
A	EP 0 793 374 A (ROCKWELL INTERNATIONAL CORP) 3 September 1997 (1997-09-03) page 3, column 4, line 28 -page 4, column 5, line 41	1, 2, 5-7, 12-15
	-/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

4 November 1999

Date of mailing of the international search report

10/11/1999

Name and mailing address of the ISA

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Authorized officer

Van der Zaal, R

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INTERNATIONAL SEARCH REPORT

International Application No.

PCT/GB 99/02665

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 5 583 560 A (COREY GLENN ET AL) 10 December 1996 (1996-12-10) column 23, line 46 -column 24, line 44 figures 45-50</p>	1-7

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 99/02665

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 2207838	A	08-02-1989	US 4792849 A	20-12-1988
			AU 2043988 A	09-02-1989
			CA 1298908 A	14-04-1992
			CA 2010867 A	08-09-1990
			CN 1031457 A	01-03-1989
			DE 3820425 A	16-02-1989
			DK 428688 A	05-02-1989
			ES 2007226 A	01-06-1989
			FI 883633 A	05-02-1989
			FR 2619273 A	10-02-1989
			IT 1226436 B	15-01-1991
			JP 1106541 A	24-04-1989
			LU 87305 A	02-02-1989
			NL 8801259 A	01-03-1989
			SE 8801613 A	05-02-1989
			US 5113496 A	12-05-1992
			US 5191410 A	02-03-1993
			US 5195092 A	16-03-1993
WO 9524796	A	14-09-1995	AU 1846195 A	25-09-1995
			EP 0749661 A	27-12-1996
			JP 9510065 T	07-10-1997
EP 0793374	A	03-09-1997	US 5831665 A	03-11-1998
			CA 2195899 A	25-07-1997
US 5583560	A	10-12-1996	AU 7176494 A	17-01-1995
			WO 9501059 A	05-01-1995

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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference J00024475WO	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/GB99/02665	International filing date (day/month/year) 12/08/1999	Priority date (day/month/year) 14/08/1998
International Patent Classification (IPC) or national classification and IPC H04N7/14		
Applicant NISABA GROUP LTD. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 6 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 08/03/2000	Date of completion of this report 17.08.2000
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer McGrath, S Telephone No. +49 89 2399 8961 

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**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB99/02665

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-27 as originally filed

Claims, No.:

1-19 as originally filed

Drawings, sheets:

1/14-14/14 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

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**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB99/02665

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-19
	No:	Claims	
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-19
Industrial applicability (IA)	Yes:	Claims	1-19
	No:	Claims	

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

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Concerning Point V - Reasoned Statement

The following documents, cited in the International Search Report (ISR), are mentioned in this report:

D1: GB-A-2 207 838

D2: WO 95 24796 A

1. As far as can be ascertained at present given the clarity objection set out below (section VIII), the subject-matter of claim 1 does not appear to meet the requirements of Article 33(3) and Rule 65(1)(2) PCT since it does not involve an inventive step.

See D1, see in particular the passages cited in the ISR, discloses almost all the features of claim 1. See also page 9, lines 5-9 which clearly discloses the preference of providing human operators for communication with subscribers. D1 does not provide details of what happens when a subscriber talks on the telephone to a the "service representatives", nor what devices are used by these representatives. Nevertheless it is considered obvious that the telephone system enables transactions to be effected and obvious that each representative has computer means which allow them to "provide ... video presentations of available products to be viewed on the customers' televisions" via the cable television system - see Fig. 1.

2. The following dependent claims do not appear to contain any additional features which, in combination with the features of any claim to which they refer, involve an inventive step Article 33(3) PCT:

claim 2 - see D1, Fig. 1;

claims 3 & 4 - see D1, page 11;

claim 5 - it is not apparent that the term "broadcast interface" has any particular meaning, nor whether such a device can actually enable such interactive communication, but in any case the skilled person would interpret D1 as being

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capable of performing such communication, at least some of it via the cable network which clearly includes a "broadcast interface" of some sort;

claim 6 - this claim is also rather vague but in any case D1 must include, at least implicitly, some form of video feed interface;

claim 7 - the same applies to the audio part;

claim 8 - the scrambling of video data is extremely well-known in the art and the skilled person is capable of applying it to any video data as a matter of routine;

claim 9 - see D1, page 2, line 26 - page 3, line 1 - whilst this passage refers to the prior art of D1 it nevertheless provides the clear teaching that a dedicated channel may be provided. D2, page 17, line 19 - page 18, line 2.

claim 10 - it is not fully clear what "integrally connected" means but in any case it is obvious for the skilled person to integrate such means;

claim 11 - it is implicit in D1 that storage means suitable for such purposes are provided. In any case it is obviously desirable to monitor transactions for security purposes, cf monitoring of normal telephone calls.

claim 12 - see D1;

claim 13 - see D1;

claims 14 & 15 - see D2, Fig. 1A;

claims 16 - 19 - see D1.

Concerning Point VII - Certain Defects

1. The requirements of Rule 6.3(b) PCT are not met since the independent claim is not properly cast in the two part form, according to which those features which in combination are part of the prior art are placed in the preamble.
2. The requirements of Rule 5.1(a)(ii) & (iii) PCT are not met since the background art, useful for understanding the invention, eg the documents mentioned above, have not been acknowledged in the description and the technical problems and any advantageous effects have not yet been stated in comparison to this background art.
3. The requirements of Rule 6.2(b) PCT are not met since reference signs are not used in the claims. It is considered that their presence would significantly aid the

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understanding of the claims.

Concerning Point VIII - Certain Observations

1. The subject-matter of claim 19 lacks clarity and therefore does not meet the requirements of Article 6 PCT. See also Rule 6.2(a) and the PCT Guidelines III, 4.10.
2. The subject-matter of claim 1 lacks clarity and therefore does not meet the requirements of Article 6 PCT.

The term "agents" is considered unclear in this context. It is not clear whether this term implies human "agents" or a machine-based "agents". Given this doubt it is not possible to clearly determine the scope of the claim.

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